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FIRST ANNUAL REPORT

OF

The Department of Trade and Commerce

Division of Fire Prevention

July 1, 1917

TO

June 30, 1918



WILLIAM H. BOYS, Director

JAMES. S. BALDWIN, Assistant Director

JOHN G. GAMBER, Fire Marshal

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OF
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and Commerce

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WILLIAM H. BOYS, Director
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SPRINGFIELD, ILL.
ILLINOIS STATE JOURNAL CO., STATE PRINTERS
1918

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DIVISION OF FIRE PREVENTION

JOHN G. GAMBER, *Fire Marshal*

Prior to the date the Civil Administrative Code became effective, this division was known as the State Fire Marshal's Department. The State Fire Marshal's Department was established in 1909, pursuant to a special enactment of the General Assembly of that year.

The principal work of this division is naturally divided into two classes: (a) investigations and (b) inspections.

INVESTIGATIONS

Since July 1, 1917, this branch of the work has been in charge of a supervisor of fire investigations, and it is the duty of the supervisor and of the men assigned to him to make investigation of the cause, origin and circumstances of every fire occurring in each city, village, town or township by which property has been destroyed or damaged, and especially to make investigation as to whether or not such fire was the result of carelessness or design. Should it be established, as a result of such investigation, that there is sufficient evidence to charge any person with the crime of arson, or with the attempt to commit the crime of arson, or of conspiracy to defraud, or criminal conduct in connection with any fire, the person so charged is arrested and charged with such offense, and all information in connection therewith is turned over to the state's attorney of the proper county for prosecution according to law. Full and complete power is given to the Fire Marshal and to his assistants to subpoena and examine witnesses in connection with such investigations.

The work of this branch of the division has been especially stressed during the past year. In 1912 it is said that half of the fire losses in the city of Chicago were due to incendiarism. The annual tribute paid to the "fire bug" by the honestly insured was estimated to be \$257,000,000 in the United States and Canada. In 1917, in the United States alone, it amounted to nearly \$300,000,000. In contemplating these figures, it must be remembered that, in the last analysis, it is those who pay the premiums, and not the insurance companies, who pay these losses.

In 1912 an effort was made to check the enormous losses from such causes and very good success attached to the efforts at that time. With the sentencing of more than twenty men to the penitentiary, the atmosphere was cleared and a decrease in fire losses in Illinois of more than \$4,000,000 was accomplished.

Within the past few years, a great increase in fire losses has been noted. It was then discovered that practically all of those who had been convicted during the years 1912 and 1913 had either served their time, or had been pardoned or paroled, and that source was again probed, not without exceedingly satisfactory results.

During the past year at Kankakee, Illinois, the conviction of one of the most notorious persons connected with what is generally called the "arson trust" was had, and in the trial of this case much valuable information was secured, which will materially assist in the apprehension of a number of others variously connected with the operations of organizations of this nature. The character of the evidence thus obtained is regarded as sufficient to effectually prevent a recurrence in this State of such enormous fire losses from arson as have heretofore existed. For example, in one particular instance where a settlement of a fairly large loss in Chicago was questioned, an investigation by this division was made which resulted in the arrest of one of the parties involved, and \$5,500 was recovered for the companies which had policies upon the risk in question. The excitement caused in certain circles by reason of the unearthing of the operations of this machine alone has had a very wholesome effect upon the method of making settlements of losses, and it is believed a large amount of money will be saved to insurance companies by reason of these changed methods. This should ultimately be of benefit to those who pay the premium.

During this campaign the confessions obtained from the principals arrested involved some twenty-five persons. All of the evidence was turned over to the State's Attorney of Cook County, and it is confidently believed it will eventuate in convictions.

The following figures show concisely the work of the State Fire Marshal's Department in the investigation of fires reported as of an incendiary or suspicious origin for the period from September 30, 1916, to July 1, 1917:

Number of fires investigated.....	303	Number of persons convicted.....	35
Number of arrests.....	45	Number of persons acquitted.....	8
Number of indictments.....	37	Number of cases dismissed.....	9
Number of cases tried.....	52		

For the period commencing July 1, 1917, and ending June 30, 1918, the result of the investigation of fires reported as of an incendiary or suspicious origin is shown by the following:

Number of fires investigated.....	307	Number of persons convicted.....	41
Number of arrests.....	89	Number of persons acquitted.....	6
Number of indictments.....	124	Number of cases dismissed.....	35
Number of cases tried.....	83	Number of mistrials.....	1

INSPECTIONS

The statute provides that this division and its assistants shall have the right, at all reasonable hours, for the purpose of examination, to enter into and upon all buildings and premises; and if, upon inquiry, any building or other structure, for want of proper repair or by reason

of age and dilapidated condition, or for any cause, is especially liable to fire, and is so situated as to endanger other buildings or property, or is so occupied that fire would endanger persons or other property therein, or if there shall be found upon the premises combustible explosive material or inflammable conditions, dangerous to the safety of said buildings or premises, then and in those cases it shall be ordered that the same be removed or remedied, and these orders shall be forthwith complied with by the owner or occupant of the building. The statute gives the right of appeal to the Fire Marshal and provides penalties for failure to comply with orders finally issued.

This work is a very important one and is primarily in the interest of property owners or occupants, for by a proper use of this power not only is it designed that property be saved from probable loss, but that human life be safeguarded.

In administering this provision of the law, it has been the aim of the division, so far as funds would permit, to take up congested areas in cities and thoroughly inspect them, and by a proper system of re-checking defects found by such inspections to remove fire hazards as far as possible. The result of this is two-fold: first, to eliminate preventable fires; and, second, to reduce hazards and thereby reduce the rates to be paid by policy holders.

To illustrate one phase of this subject, the results in the city of Peoria during the year 1917 may be cited. Statistics show that the loss ratio for the twenty-nine years preceding 1917 was seventy per cent of the premium income; and, as experience of the companies shows that it costs forty per cent to cover the overhead or operating expenses of the insurance companies, it will at once be seen that the insurance was carried in the city of Peoria at an average loss of ten per cent per annum to the companies. For the nine years preceding the year 1917, the loss ratio in this city was eighty-three per cent of the premium income. During the year 1917 the premium income of this city was over \$500,000, and the losses were less than \$220,000, which showed a loss ratio of forty-four per cent. During the year 1917 inspectors from this division made a thorough inspection and recheck of Peoria, which included 2,000 inspections and rechecks. The expense of this work was less than one per cent of the premiums within that city for the year 1917. While it is not claimed here that the reduction of the loss ratio was due entirely to inspections and rechecks, yet it is reasonable to assume that the major portion of this saving was due to the systematic inspection and recheck during that year.

This case is fairly typical of what may be accomplished throughout the State, and if results such as this can be so accomplished, this fire prevention work is quite a valuable asset. While this work cannot be done at once over the entire State, it is the aim of this division, by cities or by sections, to effectually inspect and recheck each city or section of the State until the entire State has been covered.

During the period from September 30, 1916, to July 1, 1917, 5,650 inspections were made, covering twelve cities and including a part of the City of Chicago.

In April, 1917, at the request of the Governor, a systematic method of inspecting elevators, mills, warehouses and other buildings containing foodstuffs was undertaken, with the idea of removing, as quickly and effectively as possible, all proximate occasions for fire. Active operations began May 1, 1917, and continued without interruption until June 15, 1917. During this time, 1,110 inspections were made and 924 defects were found. By the recheck system it was ascertained that all these defects had been corrected. This complete compliance on the part of owners or occupants of buildings in which such defects were found, deserves commendation and demonstrates a patriotic cooperation on the part of owners and occupants. Only two fires have occurred in the properties inspected and the saving effected in other buildings can scarcely be measured from a monetary standpoint. In this work the division was ably assisted by inspectors from the Bureau of Fire Prevention and Public Safety of the City of Chicago, and by inspectors furnished by the Board of Underwriters and the Governing Committee of Chicago. This feature of the work was discontinued on June 15 because of a lack of funds, but was resumed on July 1, 1917, when the appropriations for this biennium became available. A down-State conservation campaign was organized for the purpose of carrying on the work in the State outside of Cook County. This organization was effected in conjunction with the Conservation Association of Illinois, which provided a number of State agents of the different insurance companies to do the greater portion of the work under the direction and supervision of the division.

In addition to the conservation inspections made by this association, 18,528 inspections were made in the different cities of the State. These inspections covered 455 schools, 208 theatres, 300 churches, 234 hotels, 90 dry cleaning establishments, and 190 halls and public buildings. Fourteen thousand nine hundred and nine orders were issued for the correction of defects found; 140 dilapidated buildings were removed; 14 arrests and convictions followed for failure to comply with the orders, and 32 cases are now pending.

It has been estimated that the saving to the owners and occupants of buildings in cities of this State, as the result of this inspection work, is more than \$1,000,000.

In addition to active inspection work, letters setting forth the fire prevention ideas of this division and suggestions with reference to the maintenance of buildings and machinery, watchman service, etc., have been mailed to all owners and managers of mills, elevators and warehouses. The value of such work to the community is incalculable, and

the inevitable results should be shown in premium rates paid by policy holders just as soon as communities recognize the value of this branch of service and avail themselves of and honestly conform to requirements promulgated by students who have given their best thought to this science.

MISCELLANEOUS

Early in the organization of the work of this division it was determined that while deputy fire marshals and inspectors were traveling over the State making inspections and investigations, they might also serve useful purposes in the enforcement of kindred laws, not specified in the Fire Marshal act, yet so closely associated with fire loss as to make it worth while of enforcement by the same agencies; and to that end instructions were issued to the inspectors and deputies to enforce the following acts:

1. "An Act relating to fire-escapes," approved April 21, 1899, and subsequent amendments.

2. "An Act relating to fire-escapes in hotels," etc., approved June 26, 1913.

3. All laws of the State relating to the safety and purity of illuminating oils and gasoline.

It was determined that the enforcement of these additional laws could well be supervised while these men traveled from place to place upon assignments of duties under the Fire Marshal act.

STATISTICAL RECORD

Below will be found tables, showing in a concrete manner the active work of this division and covering two periods, namely: September 30, 1916, to June 30, 1917, and July 1, 1917, to June 30, 1918.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE, FROM OCTOBER 1, 1916, TO JULY 1, 1917

IN THE CITY OF CHICAGO			
Total value of buildings in which fires have occurred	\$45,487,302	Total damage to said personal property	\$ 2,029,810
Total damage to said buildings	1,611,710	Total insurance on said personal property	12,468,755
Total insurance on said buildings	23,636,705	Total fire loss in the city of Chicago	3,641,520
Total value of personal property jeopardized by fire	19,071,766	Total number of fires in the city of Chicago.....	5,277
OUTSIDE OF THE CITY OF CHICAGO			
Total value of buildings in which fires have occurred	\$25,013,376	Total damage to said personal property	\$3,117,257
Total damage to said buildings	4,929,623	Total insurance on said personal property	6,760,986
Total insurance on said buildings	15,112,205	Total fire loss outside the city of Chicago.....	8,046,880
Total value of personal property jeopardized by fire	12,225,319	Total number of fires outside of the city of Chicago	7,378

THE DEPARTMENT OF TRADE AND COMMERCE

IN THE STATE OF ILLINOIS

Total value of buildings in which fires have occurred	\$70,500,678	Total damage to said personal property	\$ 5,147,067
Total damage to said buildings	6,541,333	Total insurance on said personal property	19,229,741
Total insurance on said buildings	38,748,910	Total fire loss in the entire State of Illinois	11,688,400
Total value of personal property jeopardized by fire	31,297,085	Total number of fires in the entire State of Illinois...	12,655

NUMBER OF FIRES AND THE LOSS THEREFROM, FROM OCTOBER 1, 1916, TO JULY 1, 1917

IN THE CITY OF CHICAGO

Month. 1916	Number of fires.	Fire loss.	Month. 1917	Number of fires.	Fire loss.
October	565	\$227,930	March	632	\$531,585
November	514	629,095	April	499	179,250
December	695	585,275	May	569	404,265
1917			June	325	139,145
January	642	397,765			
February	836	547,210		5,277	\$3,641,520

OUTSIDE OF THE CITY OF CHICAGO

Month. 1916	Number of fires.	Fire loss.	Month. 1917	Number of fires.	Fire loss.
October	712	\$ 792,981	March	1,085	\$1,020,372
November	915	987,883	April	713	571,795
December	846	1,230,030	May	564	573,387
1917			June	481	570,376
January	891	877,136			
February	1,171	1,422,920		7,378	\$8,046,880

IN THE STATE OF ILLINOIS

Month. 1916	Number of fires.	Fire loss.	Month. 1917	Number of fires.	Fire loss.
October	1,277	\$1,020,911	March	1,717	\$1,551,957
November	1,429	1,616,978	April	1,212	751,045
December	1,541	1,815,305	May	1,133	977,652
1917			June	806	709,521
January	1,533	1,274,901			
February	2,007	1,970,130		12,655	\$11,688,400

CLASSIFICATION OF PROPERTY BURNED, NUMBER OF FIRES AND THE FIRE LOSS, ACCORDING TO PROPERTY DESTROYED, FROM OCTOBER 1, 1916, TO JULY 1, 1917

Class of property.	Number.	Damage.
1. Apartment houses, flats and rooming houses	1,347	\$ 307,892
2. Amphitheaters, grand stand, etc.	2	8,000
3. Bakeries	28	10,630
4. Barber shops	142	126,754
5. Barns and stables (not liveryes)	753	660,419
6. Churches	60	166,579
7. Depots, stations, waiting rooms, etc.	19	4,855
8. Dry cleaning establishments	25	11,721
9. Dry houses, kilns, rooms, etc.	9	66,565
10. Dwellings	5,981	3,026,379
11. Elevators and grain warehouses	24	701,586
12. Factories	397	1,716,916
13. Foundries	30	74,200
14. Garages	215	278,113
15. Granaries	18	12,665
16. Green houses	3	115
17. Halls (lodge), (club), (dance), (public), etc.	62	126,419
18. Hotels and boarding houses	93	275,651
19. Hospitals	12	1,310
20. Ice houses	20	377,825
21. Jails	6	750
22. Laundries	28	51,265
23. Liveryes	20	58,635
24. Mills (flour)	8	245,400
25. Mills (saw and planing)	7	30,714
26. Office buildings	118	112,910
27. Oil houses	7	3,480
28. Photo studios	6	2,350

	Class of property.	Number.	Damage.
29.	Power houses, pump houses and engine houses.....	28	\$ 35,970
30.	Restaurants	81	65,726
31.	Saloons	134	117,759
32.	Sheds	678	156,316
33.	Smoke houses	56	5,858
34.	Silos	3	2,000
35.	Stores	1,053	1,566,928
36.	Shops (carpenter, blacksmith, etc).....	190	102,976
37.	Schools (colleges, seminaries, etc).....	72	238,843
38.	Theatres and motion picture houses.....	27	35,158
39.	Warehouses	117	541,388
40.	Miscellaneous	111	23,610

FIRES OTHER THAN BUILDINGS

1.	Automobiles	266	40,542
2.	Boats	13	6,175
3.	Bridges	6	1,800
4.	Cars (railway), (electric), etc.....	211	173,192
5.	Docks (coal), etc.....	2	20,000
6.	Fences	17	490
7.	Grain and hay.....	93	18,293
8.	Junk yards	3	2,115
9.	Lumber yards	17	68,471
10.	Tanks (water), etc.....	6	4,535
11.	Tents .....	.....	.....
12.	Threshing outfits	1	50
13.	Trestles	4	55
14.	Wagons	26	952
		12,655	\$11,688,400

CLASSIFICATION OF CAUSES, NUMBER OF FIRES AND THE LOSS THEREFROM ACCORDING TO CAUSES, FROM OCTOBER 1, 1916, TO JULY 1, 1917

	Cause.	Number.	Damage.
1.	Chimneys, flues, cupolas and stacks, overheated or defective	1,421	\$ 853,293
2.	Electricity	382	401,544
3.	Explosions	130	101,721
4.	Exposure	843	850,979
5.	Fireworks, fire crackers, balloons, etc.....	4	235
6.	Friction	31	95,420
7.	Gas—natural and artificial.....	166	98,106
8.	Hot ashes and coals.....	174	76,917
9.	Hot grease, oil, tar, wax, asphalt, (ignition of).....	55	49,583
10.	Hot or molten metal.....	33	62,295
11.	Incendiarism	318	469,325
12.	Lightning—buildings rodded .....	.....	.....
13.	Lightning—buildings not rodded.....	228	337,852
14.	Matches	840	222,192
15.	Miscellaneous—cause known, but not classified.....	77	27,921
16.	Open fires	327	188,952
17.	Open lights	232	68,948
18.	Petroleum and its products.....	564	421,376
19.	Rubbish and litter.....	218	25,408
20.	Smoking (cigars, cigarettes, pipes, etc.).....	267	107,206
21.	Sparks—arising from combustion.....	2,261	1,404,426
22.	Sparks—occasioned by running machinery, including pickers, carding machines, gins, etc.....	129	91,324
23.	Spontaneous combustion	237	539,299
24.	Steam and hot water pipes.....	57	44,308
25.	Stoves, furnaces, boilers and their pipes.....	1,152	717,281
26.	Unknown	2,509	4,432,439
		12,655	\$11,688,400

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE, FROM JULY 1, 1917, TO JULY 1, 1918

IN THE CITY OF CHICAGO			
Total value of buildings in which fires have occurred	\$61,498,385	Total damage to said personal property	\$ 2,396,669
Total damage to said buildings	1,588,814	Total insurance on said personal property	19,527,341
Total insurance on said buildings	31,833,910	Total fire loss in the city of Chicago	3,985,483
Total value of personal property jeopardized by fire	28,992,432	Total number of fires in the city of Chicago.....	5,924

OUTSIDE OF THE CITY OF CHICAGO

Total value of buildings in which fires have occurred	\$23,983,503	Total damage to said personal property	\$3,352,640
Total damage to said buildings	4,969,937	Total insurance on said personal property	5,517,142
Total insurance on said buildings	12,694,873	Total fire loss outside the city of Chicago	8,222,577
Total value of personal property jeopardized by fire	11,047,087	Total number of fires outside the city of Chicago.	6,712

IN THE STATE OF ILLINOIS

Total value of buildings in which fires have occurred	\$85,481,888	Total damage to said personal property	\$ 5,649,309
Total damage to said buildings	6,558,751	Total insurance on said personal property	22,647,814
Total insurance on said buildings	44,528,783	Total fire loss in the entire State of Illinois	12,208,060
Total value of personal property jeopardized by fire	40,039,519	Total number of fires in the entire State of Illinois..	12,636

NUMBER OF FIRES AND THE LOSS THEREFROM, FROM JULY 1, 1917, TO JULY 1, 1918

IN THE CITY OF CHICAGO

Month. 1917	Number of fires.	Fire loss.	Month. 1918	Number of fires.	Fire loss.
July	292	\$780,985	January	690	\$358,915
August	479	161,675	February	625	517,590
September	384	121,125	March	537	368,001
October	443	151,310	April	449	201,127
November	409	157,270	May	389	346,285
December	807	559,470	June	420	261,730
				5,924	\$3,985,483

OUTSIDE OF THE CITY OF CHICAGO

Month. 1917	Number of fires.	Fire loss.	Month. 1918	Number of fires.	Fire loss.
July	416	\$387,861	January	679	\$1,077,207
August	469	380,541	February	702	819,974
September	488	494,770	March	697	1,087,949
October	535	770,914	April	479	590,103
November	664	901,135	May	392	558,044
December	861	769,308	June	330	484,771
				6,712	\$8,222,577

IN THE STATE OF ILLINOIS

Month. 1917	Number of fires.	Fire loss.	Month. 1918	Number of fires.	Fire loss.
July	708	\$1,168,846	January	1,369	\$1,436,122
August	948	542,216	February	1,327	1,337,564
September	872	515,895	March	1,234	1,455,950
October	978	922,224	April	928	791,230
November	1,073	1,058,405	May	781	904,329
December	1,668	1,328,778	June	750	746,501
				12,636	\$12,208,060

CLASSIFICATION OF PROPERTY BURNED, NUMBER OF FIRES, AND THE FIRE LOSS ACCORDING TO PROPERTY DESTROYED, FROM JULY 1, 1917, TO JULY 1, 1918

	Class of property.	Number.	Damage.
1.	Apartment houses, flats and rooming houses.....	1,631	\$ 324,008
2.	Amphitheaters, grand stand, etc.....	40	36,505
3.	Bakeries	43	29,097
4.	Barber shops	896	972,829
5.	Barns and stables (not liveryes).....	70	311,607
6.	Churches	34	17,465
7.	Depots, stations, waiting rooms, etc.....	20	6,150
8.	Dry cleaning establishments.....	3	7,220
9.	Dry houses, kilns, rooms, etc.....	5,501	2,552,664
10.	Dwellings	25	179,894
11.	Elevators and grain warehouses.....		

	Class of property.	Number.	Damage.
12.	Factories	395	\$1,762,337
13.	Foundries	34	33,105
14.	Garages	259	278,586
15.	Granaries	10	23,110
16.	Green houses	6	4,357
17.	Halls, (lodge), (club), (dance), (public), etc.	76	102,192
18.	Hotels and boarding houses	153	215,317
19.	Hospitals	10	1,446
20.	Ice houses	10	62,852
21.	Jails	4	580
22.	Laundries	30	38,667
23.	Liveries	22	33,410
24.	Mills (flour)	8	17,060
25.	Mills (saw and planing)	6	10,301
26.	Office buildings	122	658,461
27.	Oil houses	8	17,440
28.	Photo studios	8	2,955
29.	Power houses, pump houses and engine houses	50	71,510
30.	Restaurants	79	55,496
31.	Saloons	149	150,016
32.	Sheds	584	262,695
33.	Smoke houses	46	6,089
34.	Silos	5	2,220
35.	Stores	1,041	1,904,242
36.	Shops, (carpenter, blacksmith, etc.)	218	150,694
37.	Schools, (colleges, seminaries, etc.)	68	224,377
38.	Theatres and motion picture houses	39	133,298
39.	Warehouses	158	871,723
40.	Miscellaneous	91	158,403

FIRES OTHER THAN BUILDINGS

1.	Automobiles	319	64,480
2.	Boats	7	4,775
3.	Bridges	10	2,610
4.	Cars, (railway), (electric), etc.	177	182,995
5.	Docks, (coal), etc.	2	25
6.	Fences	15	537
7.	Grain and hay	88	24,015
8.	Junk yards	4	1,010
9.	Lumber yards	15	176,580
10.	Tanks, (water), etc.	14	3,600
11.	Tents	4	850
12.	Threshing outfits	4	4,775
13.	Trestles .....	.....	.....
14.	Wagons	25	1,430
		12,636	\$12,208,060

CLASSIFICATION OF CAUSES, NUMBER OF FIRES AND THE LOSS THEREFROM ACCORDING TO CAUSES, FROM JULY 1, 1917, TO JULY 1, 1918

	Cause.	Number.	Damage.
1.	Chimneys, flues, cupolas and stacks, overheated or defective	1,119	\$ 874,499
2.	Electricity	434	361,100
3.	Explosions	136	86,534
4.	Exposure	690	964,168
5.	Fireworks, fire crackers, balloons, etc.	29	12,921
6.	Friction	36	75,630
7.	Gas—natural and artificial	360	453,299
8.	Hot ashes and coals	179	38,125
9.	Hot grease, oil, tar, wax, asphalt, (ignition of)	57	16,950
10.	Hot or molten metal	30	15,705
11.	Incendiarism	320	624,409
12.	Lightning—buildings rodged .....	.....	.....
13.	Lightning—buildings not rodged	335	590,679
14.	Matches	940	190,432
15.	Miscellaneous—cause known, but not classified.	24	21,053
16.	Open fires	343	75,649
17.	Open lights	192	206,069
18.	Petroleum and its products	605	444,922
19.	Rubbish and litter	252	208,595
20.	Smoking, (cigars, cigarettes, pipes, etc.)	273	64,945
21.	Sparks—arising from combustion	2,088	571,747
22.	Sparks—occasioned by running machinery, including pickers, carding machines, gins, etc.	161	140,098
23.	Spontaneous combustion	310	481,415
24.	Steam and hot water pipes	95	23,199
25.	Stoves, furnaces, boilers and their pipes	961	810,250
26.	Unknown	2,667	4,855,667
		12,636	\$12,208,060

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DIVISION OF FIRE PREVENTION

JOHN G. GAMBER, *Fire Marshal*

Fire losses in Illinois during the fiscal year ended June 30, 1920 were \$16,552,248. In the preceding fiscal year they were \$13,240,326. The apparent increase last year was \$3,311,922, or approximately 25 per cent, but comparisons are almost futile. Post bellum high prices began to get under way in the 1918-1919 period, but did not begin to hit their real stride until the latter part of the period. In the 1919-1920 period speculative activity reached its height and prices touched their peak. A home which in 1918-1919 was put down as a loss of \$4,000 became a loss of \$6,000 or \$7,000 in 1919-1920. Stocks of merchandise destroyed in the latter year were valued at entirely different levels than those of the preceding year. Average values throughout 1919-1920 were at least 50 per cent higher than in 1918-1919. Unheard of prices were reflected in the losses when fires occurred. Insurance companies made a campaign, urging policy holders to double their insurance, if necessary, to protect themselves at replacement values.

In view of the circumstances, the significant thing is not that losses showed an increase in dollars and cents, but that they were held to a margin of 25 per cent during a time when every loss was figured at an appreciation of at least 50 per cent—a saving in fact of 25 per cent.

It is especially noteworthy that in about half of the counties outside of Cook—counties in which we were able to do the most intensive work—an actual reduction in the loss is shown, despite inflated values.

Illinois has more than held its own in fire prevention work. Forces which have been boosting values throughout the Nation have been the despair of fire preventionists. National losses have been averaging \$900,000 a day, or approximately a per capita of \$3 a year. The Illinois per capita loss for the year covered by this report is approximately \$2.55, or 15 per cent lower than the national figure. In view of the fact that Illinois is a leading industrial and commercial State, with the numerous special hazards and concentrated high values involved in manufacturing and commercial occupancies, this record is very favorable.

Every phase of activity of the division was doubled last year. We covered twice as many towns, issued twice as many orders, made twice as many investigations and gave more attention than ever before to educational propaganda, by public addresses, bulletins and through magazines and newspapers.

How much of a loss was saved the State as a result of this work, of course, cannot be told, but the correction, or elimination of thousands of hazards of every description through departmental orders cannot have been without tremendous effect.

The fire waste of this State and Nation, destroying millions of dollars in resources and bringing death and injury to thousands, is nothing short of a disgrace. We are making headway in Illinois and when values stabilize we look forward to a showing of systematic reduction each year. The problem is one of such magnitude, however, that an increase in the scope of the fire prevention work, as well as some additional legislation, seems imperative if results are to be achieved on a large scale and of a permanent order. Some recommendations along these lines will be made in their proper place in this report.

Another important feature is the education of the public to the menace of fire and the responsibility of every person to prevent fires so far as he personally is concerned. We have been contending with a very different state of public mind in the last year or so from that which existed previously. During the war thrift and conservation became a national trait. Every appeal to save was readily heeded by a patriotic people. But when the strain and restraint of war were lifted there came a wave of popular extravagance, wastefulness and pleasure seeking. The lessons of conservation were forgotten in a time of waste. It was difficult to impress the need for personal responsibility and carefulness upon a people who wanted to be care-free and gay. But indications are that the people have had their fling and are about ready to settle down to the serious business of readjustment, and that reduction of the fire waste will engage their thoughtful attention along with the other big things involved.

INVESTIGATIONS

Incendiary fires have been a small feature of the fire loss, but 214 being reported out of a total of 14,052 fires reported during the year. The incendiary loss was \$1,220,515. Of this amount \$1,000,000 represented the loss in one fire. This occurred in a railroad yard in Chicago and was thought to have been due to labor troubles. This fire was thoroughly investigated, but there was no tangible evidence to substantiate the suspicions. It is just as likely that the cause was spontaneous combustion in one of the freight cars, contents of which made this origin very possible. Aside from this fire, the incendiary loss was \$220,515, or about 1 3/10 per cent of the total loss. The usual incendiary loss runs about 10 per cent.

The principal reason for the relatively small incendiary loss was the condition of business. High prices in every line made profits secure. Financial records show comparatively few failures in business the country over. When business is good, incendiary fires are few, for the

crooked business man does not "sell out to the insurance companies" when there is a larger profit in disposing of goods in the legitimate way.

Nevertheless, the investigation branch of the division doubled its activities. Not only were suspected incendiary losses investigated, but several hundred other fires were looked into, when the cause could not be ascertained and the circumstances indicated that an investigation was desirable.

We cannot afford to let up on investigation work even at a time when the element of crookedness is at a low ebb. Previous activity of the division in having some notorious adjusters and firebugs sentenced to prison, and driving others of the fraternity to cover, has had a wholesome effect in Illinois. Any lessening of our vigilance would only open again the avenues of temptation and encourage the criminally inclined to resume their activities.

Furthermore, a thorough investigation of a mysterious fire has a very strong moral effect on any community, even where no evidence is found to justify an action. The fact that trained investigators for the State are soon on the ground looking into every angle of the loss has a deterrent effect on any who might be inclined to burn their property for gain.

This is a very important feature, especially at this time. In case the break in high prices should be sudden and radical, rather than gradual, a very serious situation is likely to develop. It will mean ruination for many persons who are stocked with goods purchased at high levels and tremendous losses for the greedy speculator who has cornered necessities for disposal at the prevailing high, or higher, prices. Under such circumstances the unscrupulous person is likely to feel the temptation to "cash in" on his insurance policy.

The following table shows the results obtained through investigation of fires reported as of doubtful or suspicious origin:

Number of fires investigated.....	1,642
Number of arrests made.....	51
Number of persons indicted.....	44
Number of persons convicted.....	19
Number of persons acquitted.....	8
Number of indictments nolle prossed.....	5
Number of untried cases.....	12
Number of cases dismissed.....	14
Number of "no true bills" returned by the grand jury.....	6

In a community in the northeastern part of the State a hotel porter was taken on suspicion of having set the hotel on fire. He finally confessed, stating that he was angry at the management for discharging him to make way for a returned soldier, who formerly held the job. It developed that he and his wife had once been convicted of arson. For several weeks prior to his arrest there had been a wave of mysterious incendiary fires in this community. The prisoner never confessed to any part in them. Whether he was the culprit, or whether the fire fiend was frightened because of swift justice meted out in this case, the incendiary fires ceased immediately.

Last Christmas a country store burned in the southeastern portion of the State. The insurance was promptly settled and all seemed well. Several weeks later the deputy residing in that district picked up a clue. Evidence was secured which indicated that the proprietor had caused the burning in order to collect the insurance, but that the fire was set by a young nephew, whom he had persuaded after much effort to do the deed. The nephew disappeared after the fire, but after a state-wide search, was finally located and he told the whole story. Goods removed from the store before the fire were located. The proprietor, his son and nephew were indicted and await trial.

Another interesting case occurred in Cook County. A youth of 21 was taken into custody for setting a fire in a large packing plant. A short time previously another mysterious fire had occurred in this plant and just prior to that time a false alarm had been turned in. This youth made a confession to a deputy, stating that he loved to see fire burn and to watch the fire department. He was committed to a hospital for the insane.

These are fair examples of the three types of cases with which we have to deal—the fires inspired by revenge or hate, those where the motive is burning to defraud the insurance companies and those which are the deeds of the irresponsible pyromaniac.

Next to murder, the crime of arson is probably the most reprehensible which which we have to contend, as the arsonist always works under cover and cares little for lives which may be lost as a result of his act.

During the year the division also uncovered operations of another insurance adjuster, who by fraudulent proofs of loss had netted himself several thousand dollars. He fled when the investigation got under way and was supposed to have gone to Mexico.

The bulk of investigations were made in Chicago, where, owing to the large number of mysterious fires, most losses are looked upon with more or less suspicion. During the race riots in August, 1919, the Fire Marshal went to Chicago and took personal charge of the situation. We were able to apprehend a number of ringleaders of mobs which fired property in the negro district, eight of whom were later indicted. Half of these cases have been disposed of, unfortunately, without a single conviction. The remainder are still on the docket.

INSPECTIONS

This branch of the work of the division has been strenuously pushed throughout the year and intensive fire prevention work has been done in the greater part of the State.

Attention has already been called to the fact that, while the fire loss for the year shows an increase in dollars and cents over that of last year, the increase is far below the advance in values of all descriptions. It has also been noted that a careful comparison, county by county,

shows an actual decrease in the losses in about 50 per cent of the counties of the State. The biggest increases in the losses appear in Rock Island County and in Cook County outside of Chicago. In the former county, a disastrous fire occurred in the factory district of Moline, destroying more than a million dollars worth of property. There were a number of disastrous fires in Cook County outside of Chicago, the principal one being a freight car conflagration which occasioned a loss of more than a million dollars. Large losses such as that at Moline would seem to indicate that there should be a more careful inspection by insurance companies of their important risks. With greater activity along these lines and closer cooperation with the department, these losses could be largely eliminated.

The results shown in counties where real intensive fire prevention work was done indicates what could be accomplished if the departmental facilities could be enlarged to carry on the same sort of intensive work in all parts of the State. It is impossible, with the limited force of deputies at our disposal, to cover the State thoroughly in any one year or to maintain simultaneous activity throughout the State.

We have followed the district plan of organization outlined a year ago, placing deputies in certain districts and assigning them so far as possible to inspections within those districts. As was expected, the plan has resulted in greater efficiency and economy, traveling expenses being kept at a minimum and each deputy becoming more conversant with conditions in his particular district.

The districts, however, are too large to permit the right kind of follow-up work. The follow-up work is important. We should be in a position to send the deputy back to a town promptly at the expiration of the majority of orders he issued there, so that they might be thoroughly checked up and steps taken where necessary to enforce compliance. At present it is impossible to do this and it is sometimes several months before we can recheck a town. This, of course, has a bad moral effect, causing those who are disinclined to comply to think they may be able to avoid complying for an indefinite period.

Furthermore, we are receiving ever increasing requests from local authorities for inspections of their cities or calls to look over special hazards. We should be in a position to handle these matters promptly at all times.

During the year, the Conservation and Fire Prevention Association of Illinois again cooperated with the division in an effective way and it is pleasing to note that only 16 elevators and 4 mills were destroyed by fire. These are the classes of property which the association inspectors cover particularly.

Examination of the detailed loss report shows that dwelling houses again head the list, both in the number of fires and the aggregate of loss. The dwelling house loss is entirely out of proportion. These fires are almost entirely preventable and with proper facilities and a sufficient

number of deputies, the loss could in a short time be reduced to the minimum.

Another classification which shows a large loss is barns, stables, etc. These barns and stables are gradually being converted into garages, with the result that hazards, which were originally great, are materially increased by the change of occupancy.

Practically twelve million dollars of the fire loss can be charged to five classes of property: barns and stables, dwellings, factories, stores and warehouses, and we do not feel that any radical decrease can be shown in these classifications until more adequate means are provided to properly cover and inspect them.

A summarized report of the division's activities is shown in the following table:

Year.	Month.	Towns visited.	Inspections.	Buildings removed.	Prosecutions and fines.
1919.....	July.....	76	6,934	15	5
	August.....	107	4,654	10	2
	September.....	66	3,843	37	8
	October.....	74	3,195	7	
	November.....	54	3,583	21	36
	December.....	47	2,513	1	1
1920.....	January.....	74	4,088	15	25
	February.....	71	5,333	40	42
	March.....	105	4,290	29	20
	April.....	105	3,832	53	15
	May.....	126	4,420	69	4
	June.....	147	6,930	33	
	Total.....	1,052	53,615	330	158

It will be noted that 330 old dilapidated buildings—fire hazards which menace whole communities—were removed. Most of the removals were secured without any court action. The 158 prosecutions and fines were largely on account of rubbish and housekeeping hazards and for violation of the gasoline law.

The tragic part of fire waste is the number of deaths and injuries. Reports kept by the division show that 219 persons lost their lives and 388 were injured as a result of fire or burns. The record by months follows:

DEATHS

Year.	Month.	Babes nad children.	Youths and middle aged	Aged people.
1919.....	July.....	20	6	2
	August.....	11	10	5
	September.....	10	10	2
	October.....	4	6	4
	November.....	9	7	1
	December.....	5	1	2
1920.....	January.....	12	6	1
	February.....	11	1	3
	March.....	13	9	3
	April.....	5	5	
	May.....	9	4	3
	June.....	10	6	3
	Total.....	119	71	29

INJURED

Year.	Month.	Babes and children.	Youths and middle aged.	Aged people.
1919.....	July.....	7	24	1
	August.....	11	23	1
	September.....	3	19	1
	October.....	4	17	1
	November.....	9	25	1
	December.....	3	8	1
1920.....	January.....	17	42	1
	February.....	16	24	1
	March.....	3	22	1
	April.....	5	13	1
	May.....	5	24	3
	June.....	13	38	6
	Total.....	96	279	13

Doubtless the toll was larger. We have no way under the law of requiring the reporting of casualties and must rely upon unofficial sources of information.

Most of the deaths and injuries are not due to burning buildings, but are the result of carelessness with matches, children and matches, starting fires with oils, careless use of gasoline and kerosene, use of cleaning and other preparations containing volatile compounds (adequate warning not always being placed on the label by the manufacturer), bon-fires and the like. The number of lives sacrificed and persons maimed as a result of these practices and conditions is appalling. We must depend largely upon public education to eliminate many of these practices, but it would seem that the situation is serious enough to warrant the legislature in enacting laws which would prohibit so far as can be done by legislative enactment the practices which are responsible for this red blot upon the State. The great majority of those burned to death are babies and little children, who do not realize danger, and the State should especially look to their welfare.

The Fifty-first General Assembly enacted a law giving the department power to make rules and regulations controlling the sale, use, storage and transportation of gasoline and volatile oils. These rules have been prepared and are ready to be published. The hazard of petroleum and its products has become one of the most serious with which we have to contend. Last year an increase of 234 fires and of \$253,353 in loss was caused by this hazard alone, while the sacrifice of a number of lives was also involved. We believe that the rules adopted will materially reduce this loss of life and property, because they throw every possible safeguard about the handling of volatile oils.

The legislature also designated the department as the enforcing agency of the laws with reference to fire escapes and doors on public buildings opening outward. The deputies throughout the State have made careful surveys of these matters and as a result a great improve-

ment has been shown as to safety conditions in schools, hotels, theaters and public buildings.

Unfortunately for the department, section 9 of the Fire Marshal Act was held unconstitutional by the supreme court in a suit instituted at Paris, Edgar County. The case involved the condemnation of an old building. The majority of the court held with the lower court that section 9 was unconstitutional because it conferred arbitrary powers upon the fire marshal. It held that property could be condemned only through proceedings in a court of record and not by any official. Justice Cartwright rendered a strong dissenting opinion, holding that the property owner is protected in all his rights, since no order of the fire marshal can be enforced except by suit brought in a court of record by the fire marshal. Two other justices also dissented, the vote being four to three. The department has applied for a rehearing of the case.

Section 9 of the Fire Marshal Act and in fact the entire Fire Marshal Law should be rewritten and recodified. This was done and presented to the last legislature, but in the closing hours of the session antagonistic interests succeeded in amending it in such a way as to make practically the entire act void. There was not time to redraft the bill and it was deemed advisable not to press the matter further at that time.

When this law is rewritten, it should contain a section giving the Department of Trade and Commerce power to make reasonable rules and regulations as to all public buildings so that they can be made safe from panic and fire. A number of other matters should be embodied in the law, but, as it is not known at this time what provisions the Housing and Building Code will contain, definite recommendations cannot be made. There should be some provision, however, for controlling theaters, garages and other serious hazards to life and property growing out of these special classes of occupancy. It is true that these hazards change from time to time and therefore the legislation should be of such a nature as to give the department reasonable control of occupancy and hazard.

Cooperation secured from fire chiefs and local officials during the past year has been very satisfactory and to them should be given a full measure of credit for the success obtained by the department. It is unfair that under the present law fees for making fire reports can be paid only to fire chiefs and mayors who receive no compensation for their services to the municipality, for almost all of them receive some compensation. All of these officials should be compensated for the work the State requires of them and the law should be changed so as to provide a definite basis of compensation for all.

RECOMMENDATIONS

Mention has been made of the need for enlarging the facilities of the division by increasing the staff of deputies. Fire prevention is a tremendous problem and can be effectively coped with only by meeting it on the scale demanded.

At this time and for some months past we have been facing the problem of retaining our present deputies on the salaries allowed by the State. Some of our best men have been offered more lucrative employment and have been held to the department only by loyalty and a liking for the work. Loyalty, however, will not hold them indefinitely and two of our best men will be lost to the service this fall. Our men are trained inspectors and investigators. In most cases their experience has been gained at the expense of the State. Despite the tremendous rise in living costs, their salaries have not been increased. Unskilled labor of every kind is being paid more in most cases than our deputies and if we are to retain anything like an efficient personnel, there must be a substantial upward revision of salaries by the next legislature.

We cannot expect to add competent new men, to say nothing of keeping our old men, unless the positions are made attractive enough to interest such men. As a matter of fact, our experience during the past year in filling vacancies has shown that it is almost impossible to interest capable men in these positions. The civil service examinations have not attracted aspirants and it has been difficult to secure temporary employees to try out the positions.

The same situation applies to the office administrative staff. The Assistant Fire Marshal must be qualified in every way to take the place of the Fire Marshal in his absence, to represent him on any occasion, to give public addresses, to prepare educational propaganda and to supervise the work of the office. The supervisor of fire prevention must be an expert in construction matters and in the technical aspects of the inspection work, besides having the ability to direct the inspection work throughout the State. The supervisor of investigations must be trained in criminal investigations and preparation of cases for prosecution, besides being able to direct effectively the investigations of the deputies in the field. Men of these qualifications can readily obtain far more lucrative employment with private enterprises and increases should be provided if the State is to retain high class men in these positions.

For real success in fire prevention work, the routine inspections should be supplemented by an effective campaign of education. Much of the carelessness and ignorance which causes fire waste can be corrected only by education. Human habits are so ingrained that they can be offset only by the most persistent propaganda.

The division ought to be in a position to publish a monthly bulletin, to be distributed not only to newspapers and other publications, but to school principals, fire chiefs, mayors and town clerks. We need enactment and enforcement of more effective ordinances in the great majority of communities in the State and greater fire prevention activity by local officials. A monthly bulletin would serve to sustain their cooperation and inspire the enthusiasm which is necessary to bring about the desired results. Other states are securing great results through such a bulletin.

The motion picture has been developed as one of the most effective means of education. The department should make use of it. In addition, literature of an educational nature should be systematically distributed.

We believe that an appropriation sufficient to undertake work along these lines in an effective way should be provided. We believe also that the legislature should make fire drills compulsory in the schools and require the teaching of fire prevention in the public schools at least fifteen minutes a week.

We have previously covered recommendations with respect to the Fire Marshal Law and legislation designed to reduce deaths and injuries due to dangerous practices and conditions. The following statutes are also strongly recommended:

Empowering rural communities to organize rural fire departments, purchase equipment and levy a tax therefor. Under such a statute rural communities could join together and maintain inexpensive, yet adequate equipment, at a central point. Development of motor apparatus and good roads has simplified the problem of rural fire protection and a statute such as suggested would do much to reduce the present unreasonable rural loss.

Uniform standard hose couplings and connections. Because of lack of uniformity, fire departments called from adjoining cities to help fight a disastrous blaze often find, after making the run, that they can be of no assistance. In some cases this has meant the loss of a whole town. A law regulating matters of this sort, with provision for enforcement, would be very desirable.

Personal liability law. A strict statute should be enacted holding every person personally liable who has caused a fire by culpable carelessness or failure to comply with an order to remedy fire hazard conditions. Under such a statute, such person could be required to pay the city the cost of extinguishing the fire and, if property of another person were destroyed, he would be liable for the damage. If every person were made liable under the statute in this way, we believe the fire loss would soon show a material decrease.

THE STATISTICAL RECORD

PROPERTY LOSS

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY, SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1919 TO JUNE 30, 1920

Total value of buildings in which fires have occurred.....	\$145,009,404
Total damage to said buildings.....	9,463,488
Total insurance on said buildings.....	80,910,666
Total value of personal property jeopardized by fire.....	60,069,387
Total damage to said personal property.....	7,088,760
Total insurance on said personal property.....	33,883,741
Total fire loss in the entire State of Illinois.....	16,552,248
Total number of fires in the entire State of Illinois.....	14,052

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1919 TO JUNE 30, 1920.

Total value of buildings in which fires have occurred.....	\$34,342,978
Total damage to said buildings.....	7,257,063
Total insurance on said buildings.....	17,044,054
Total value of personal property jeopardized by fire.....	11,778,702
Total damage to said personal property.....	4,459,990
Total insurance on said personal property.....	6,123,394
Total fire loss outside the city of Chicago.....	11,717,053
Total number of fires outside the city of Chicago.....	7,403

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1919, TO JUNE 30, 1920.

Total value of buildings in which fires have occurred.....	\$110,666,426
Total damage to said buildings.....	2,206,425
Total insurance on said buildings.....	63,866,612
Total value of personal property jeopardized by fire.....	48,290,685
Total damage to said personal property.....	2,628,770
Total insurance on said personal property.....	27,760,347
Total fire loss in the city of Chicago.....	4,835,195
Total number of fires in the city of Chicago.....	6,649

NUMBER OF FIRES AND THE LOSS THEREFROM, FROM JULY 1, 1919 TO JUNE 30, 1920.

IN THE STATE OF ILLINOIS

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	1,260	\$ 845,098	February.....	1,668	\$1,448,803
August.....	881	2,019,946	March.....	1,228	1,263,790
September.....	865	745,303	April.....	947	1,012,044
October.....	661	659,782	May.....	913	1,488,651
November.....	1,125	968,962	June.....	919	2,294,244
December.....	1,611	1,292,171			
January.....	1,974	2,503,454	Total.....	14,052	\$16,552,248

OUTSIDE THE CITY OF CHICAGO

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	457	\$ 519,133	February.....	1,033	\$1,448,778
August.....	427	1,785,786	March.....	724	876,240
September.....	409	563,953	April.....	496	645,834
October.....	286	492,412	May.....	433	912,936
November.....	599	631,727	June.....	447	1,874,394
December.....	933	993,151			
January.....	1,159	1,372,709	Total.....	7,403	\$11,717,053

IN THE CITY OF CHICAGO

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
July.....	803	\$ 325,965	February.....	635	\$410,025
August.....	454	234,160	March.....	504	387,550
September.....	456	181,350	April.....	451	366,210
October.....	375	167,370	May.....	480	575,715
November.....	526	337,235	June.....	472	419,850
December.....	678	299,020			
January.....	815	1,130,745	Total.....	6,649	\$4,835,195

CLASSIFICATION OF CAUSES, NUMBER OF FIRES AND THE LOSS THEREFROM ACCORDING TO CAUSES, FROM JULY 1, 1919 TO JUNE 30, 1920

Cause.	No.	Damage
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	1,113	\$ 926,153
2. Conflagrations.....	17	21,475
3. Electricity (except electric irons and similar small devices).....	513	1,850,336
4. Explosions.....	77	432,067
5. Exposure.....	656	459,755
6. Fireworks, fire crackers, balloons, etc.....	50	2,895
7. Friction, sparks occasioned by running machinery.....	39	38,710
8. Gas—natural and artificial.....	314	146,290
9. Hot ashes and coals, open fires.....	427	118,804
10. Hot grease, oil, tar, wax, asphalt, (ignition of).....	160	88,622
11. Hot irons, including electric devices.....	88	25,743
12. Incendiarism.....	214	1,220,515
13. Lightning—buildings rodde.....	1	10
14. Lightning—buildings not rodde.....	261	808,044

CLASSIFICATION OF CAUSES—Concluded

	Cause.	No.	Damage.
15.	Matches, smoking.....	1,514	\$ 543,931
16.	Miscellaneous—cause known, but not classified (for unknown see No. 27)....	61	30,101
18.	Open lights.....	188	212,292
19.	Petroleum and its products.....	623	572,289
20.	Rubbish and litter.....	488	93,847
22.	Sparks—arising from combustion (other than, 23).....	255	271,716
23.	Sparks—on roofs.....	3,250	1,140,726
24.	Spontaneous combustion.....	345	608,565
25.	Steam and hot water pipes.....	85	32,188
26.	Stoves, furnaces, boilers and their pipes.....	1,041	849,348
27.	Unknown.....	1,510	3,715,346
28.	Unknown origin, but investigation important.....	762	2,342,490
		14,052	\$16,552,248

CLASSIFICATION OF PROPERTY BURNED, NUMBER OF FIRES AND THE FIRE LOSS
ACCORDING TO PROPERTY DESTROYED FROM JULY 1, 1919 TO JUNE 30, 1920

	Class of property.	No.	Damage.
1.	Apartment houses, flats and rooming houses.....	1,467	\$ 426,163
2.	Amphitheatres, grand stands, etc.....	4	20,300
3.	Bakeries.....	48	36,845
4.	Barber shops.....	74	16,760
5.	Barns and stables (not liveryes).....	734	1,021,439
6.	Churches.....	98	180,079
7.	Depots, stations, waiting rooms, etc.....	46	45,950
8.	Dry cleaning establishments.....	25	11,198
9.	Dry houses, kilns, rooms, etc.....	5	2,270
10.	Dwellings.....	6,648	3,926,815
11.	Elevators and grain warehouses.....	16	186,478
12.	Factories.....	551	3,709,115
13.	Foundries.....	47	33,542
14.	Garages.....	386	660,812
15.	Granaries.....	14	31,843
16.	Green houses.....	3	2,210
17.	Halls, (lodge), (club), (dance), (public), etc.....	84	480,150
18.	Hotels and boarding houses.....	114	123,873
19.	Hospitals.....	14	46,035
20.	Ice houses.....	18	62,290
21.	Jails.....	1	10
22.	Laundries.....	32	54,660
23.	Liveryes.....	5	30,155
24.	Mills (flour).....	4	137,000
25.	Mills (saw and planing).....	6	14,715
26.	Office buildings.....	82	176,097
27.	Oil houses.....	15	106,427
28.	Photo studios.....	10	2,730
29.	Power houses, pump houses and engine houses.....	43	54,242
30.	Restaurants.....	118	44,342
31.	Saloons.....	53	21,900
32.	Sheds.....	837	353,209
33.	Smoke houses.....	55	8,847
34.	Silos.....	4	1,650
35.	Stores.....	1,034	1,473,380
36.	Shops, (carpenter, blacksmith, etc.).....	219	191,741
37.	Schools, (colleges, seminaries, etc.).....	78	155,025
38.	Theatres and motion picture houses.....	24	63,978
39.	Warehouses.....	149	831,814
40.	Miscellaneous.....	124	296,410

FIRES OTHER THAN BUILDINGS

1.	Automobiles.....	454	70,489
2.	Boats.....	13	18,100
3.	Bridges.....	7	1,720
4.	Cars, (railway), (electric), etc.....	144	1,071,573
5.	Docks, (coal), etc.....		
6.	Fences.....	28	352
7.	Grain and hay.....	58	16,285
8.	Junk yards.....	13	22,025
9.	Lumber yards.....	19	11,660
10.	Tanks, (water), etc.....	17	295,365
11.	Tents.....	4	945
12.	Threshing outfits.....		
13.	Trestles.....	1	5
14.	Wagons.....	5	1,230
		14,052	\$16,552,248

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN EACH COUNTY IN
THE STATE OF ILLINOIS FROM JULY 1, 1919 TO JUNE 30, 1920

	Number.	Damage.		Number.	Damage.
Adams.....	140	\$ 210,718	Livingston.....	74	85,952
Alexander.....	96	50,681	Logan.....	41	76,920
Bond.....	24	15,940	Macon.....	107	191,059
Boone.....	14	3,810	Macoupin.....	95	117,520
Brown.....	7	12,310	Madison.....	184	199,040
Bureau.....	68	166,514	Marion.....	55	56,940
Calhoun.....	-----	-----	Marshall.....	18	26,753
Carroll.....	24	18,223	Mason.....	30	41,340
Cass.....	41	26,311	Massac.....	18	10,893
Champaign.....	203	276,751	McDonough.....	35	42,765
Christian.....	83	94,264	McHenry.....	45	82,068
Clark.....	45	127,561	McLean.....	194	230,668
Clay.....	5	4,955	Menard.....	23	50,211
Clinton.....	21	6,995	Mercer.....	26	27,160
Coles.....	111	57,749	Monroe.....	8	15,230
Cook.....	7,265	6,793,849	Montgomery.....	76	40,280
Crawford.....	20	26,726	Morgan.....	71	38,550
Cumberland.....	24	16,333	Moultrie.....	16	17,752
DeKalb.....	58	41,280	Ogle.....	54	81,740
DeWitt.....	32	39,003	Peoria.....	233	338,781
Douglas.....	27	19,254	Perry.....	64	28,201
DuPage.....	69	256,103	Piatt.....	26	53,216
Edgar.....	73	60,811	Pike.....	25	61,172
Edwards.....	5	13,330	Pope.....	15	20,145
Effingham.....	22	21,410	Pulaski.....	2	2,100
Fayette.....	29	30,986	Putnam.....	18	36,158
Ford.....	22	47,355	Randolph.....	27	38,298
Franklin.....	47	78,175	Richland.....	30	75,932
Fulton.....	140	86,663	Rock Island.....	169	1,135,935
Gallatin.....	24	16,923	Saline.....	27	24,463
Greene.....	33	95,680	Sangamon.....	417	256,618
Grundy.....	31	24,930	Schuyler.....	21	22,950
Hamilton.....	21	13,843	Scott.....	7	14,995
Hancock.....	66	147,550	Shelby.....	41	35,447
Hardin.....	4	9,250	Stark.....	23	27,085
Henderson.....	21	93,020	St. Clair.....	373	383,972
Henry.....	178	83,402	Stephenson.....	84	55,070
Iroquois.....	75	140,436	Tazewell.....	84	169,943
Jackson.....	87	94,421	Union.....	15	14,425
Jasper.....	24	25,440	Vermilion.....	275	351,188
Jefferson.....	64	29,832	Wabash.....	27	40,431
Jersey.....	9	39,846	Warren.....	50	54,087
Jo Daviess.....	45	30,965	Washington.....	15	8,562
Johnson.....	1	1,050	Wayne.....	20	16,110
Kane.....	145	296,250	White.....	22	42,947
Kankakee.....	104	124,963	Whiteside.....	152	134,093
Kendall.....	19	103,032	Will.....	216	386,688
Knox.....	119	122,222	Williamson.....	105	108,956
Lake.....	126	144,061	Winnebago.....	115	144,333
LaSalle.....	179	305,464	Woodford.....	24	31,125
Lawrence.....	30	317,142			
Lee.....	40	142,199			
				14,052	\$16,552,248

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FOURTH ANNUAL REPORT

OF

The Department of Trade and Commerce

Division of Fire Prevention

July 1, 1920

TO

June 30, 1921



GEORGE A. BARR, Director

[Reprinted from the Fourth Administrative Report. Printed by Authority of the
State of Illinois.]

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STATE OF ILLINOIS.
THE DEPARTMENT OF TRADE AND COMMERCE.

GEORGE A. BARR, *Director*.

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DIVISION OF FIRE PREVENTION
JOHN G. GAMBER, *Fire Marshal*.

UNIVERSITY OF ILLINOIS



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DIVISION OF FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

During the calendar year 1920, fire losses in the United States reached an estimated total of a half billion dollars, which is the largest annual loss on record except in the year of the San Francisco conflagration in 1906. In Illinois the upward trend was marked, as in all other states, and the fire loss for the calendar year 1920 was \$20,175,422, which is the largest annual loss on record in this State.

The Illinois loss for the fiscal year covered by this report, ending June 30, 1921, was approximately the same, \$20,007,135.

Annual fire losses in Illinois since 1912, which is the first year for which complete records are available, are as follows:

Year.	No. fires.	Loss.
1912.....	9,092	\$11,240,540
1913.....	8,432	13,666,438
1914.....	11,605	15,353,847
1915.....	12,450	11,798,569
1916.....	15,693	13,485,083
1917.....	14,655	12,771,570
1918.....	11,651	12,542,034
1919.....	13,135	14,544,026
1920.....	14,167	20,175,422

It will be noted that a downward trend was shown in 1917 and 1918. These were the years when the United States was in the World War, when every effort was made to conserve resources from waste and when war demands made business so good that business men and manufacturers were taking all precautions to guard themselves from loss by fire. The upward trend was noted in 1919, and was probably due in that year more to inflated values than to a real increase in losses, but the large increase in 1920 indicates a real jump in losses, due probably to the break in prices and business depression, of which more will be said presently.

Figures in the above table cover calendar years in order to facilitate comparison, since it was not until 1917 that reports were required by fiscal years under provisions of the Administrative Code. Reports for the fiscal years show the same upward trend, beginning in 1919. They are:

Year.	No. fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135

CAUSES OF LOSS INCREASE.

It has been said that, "when prices go down, fires go up." In my report last year I stated that a serious situation as to fire losses was

likely to develop if there were a radical drop in prices, and such a situation did develop when the bottom dropped out of prices.

The tremendous rise in prices during the latter part of the war and for about a year and a half afterwards put values on an inflated, artificial basis which could not endure. When prices slumped and industrial depression came, factories, warehouses and stores held goods which had depreciated below cost prices, with no chance of a rising market to permit recouping of losses. In fact, the public was on the so-called "buying strike," the result of which was to depress business and prices still further. Owners of stocks whose assets were not sufficient to enable them to charge off their losses and start at the new levels, faced ruin. Many factories, which had sprung into existence to meet a war-time demand, became a dead load because they no longer had a market. Speculators, who had bought heavily on a rising market with the intention of "unloading" when prices had been forced still higher, found the banks tightening up on credit, which forced them to let go of their stocks and take their losses.

The important part of the situation so far as fire losses are concerned is that fire insurance was increased to cover inflated values during the high price period and, when the break came, most of the insurance was in force at the high levels.

A newspaper in a neighboring state contained a fire sale advertisement which stated the situation rather aptly, even though inadvertently, and with a humor not intended:

"We, like every other clothing store in the city, were 'loaded to the guards' with merchandise for which we paid much money. Many worried hours had been spent in a vain effort to 'unload' without too great a loss. The wholesale markets were offering us new merchandise way below what we paid for stock. We could not buy because we were loaded already. What to do was the problem. Then along came the fire."

In the cotton belt of the south fires were so numerous after cotton prices fell that adjusters could not arrange loss adjustments inside of two or three weeks. After the collapse of the silk market, more than twenty silk mills or factories burned out or had fires within a few months in Patterson, New Jersey, alone. Lines of clothing, women's ready to wear, furs, burlap and bagging all showed abnormal increases in loss ratio after the fall in prices. In fact, it would be hard to show any business which was affected by the adverse turn in the market which did not show an increased loss ratio. This was the situation the country over. The same trend was reflected in the Illinois losses and no doubt accounts largely for the increase last year.

No reflection is intended upon the business men of this State or Nation as a class. There is always a percentage of men, in and out of business, who will commit crime for profit, and this percentage seems to be larger in times of stress than at other times. Not all of the suspicious losses can be set down as incendiary. A great many of them are ascribed to unknown causes, because the destruction was complete enough to destroy any clue as to the possible origin of the fire. Nevertheless, suspicious fires, occurring in so many lines after the price break was felt, would seem to be more than a coincidence.

It is also a fact that a large number of fires have been due directly to depressed business conditions, but were not necessarily incendiary. Carelessness is responsible for most accidental fires. When a man's business is on the rocks and he faces nothing but losses, he is likely to become despondent and lose his usual interest in keeping up his place. He becomes careless. Fire hazards accumulate and he is likely not to care much about them, especially if he is well insured.

DISASTERS OF THE YEAR.

Two disasters occurred during the year, both of them being explosions in the city of Chicago in March. They were:

Grain elevator, owned by Chicago and Northwestern Railroad Company and occupied by the Armour Grain Company, March 19, 1921. Six killed. Property damage, \$1,000,000 to building and \$1,000,000 to contents.

Singer and Schaffer fireworks explosion, March 29, 1921. Six killed, 73 injured.

The Armour elevator was the largest of its kind in the world, having a capacity of 10,000,000 bushels and containing about 6,000,000 bushels at the time of the explosion. It was regarded as of the finest approved type of construction, being built of steel and reinforced concrete. The roofs of the bins were built as lightly as possible, in line with the theory that they would give way and dissipate the force of the blast in case of explosion. The blast was so terrific, however, that it literally blew the massive structure to pieces.

It is the opinion of the Fire Marshal that the cause of the explosion was grain dust suspended in the air, which is the most serious hazard of all grain elevators. If mixed in the right proportions with air, a spark will set it off. Just what set off the explosion in this case could not be determined by the investigation. The explosion occurred on a Saturday afternoon between 5:30 and 6 o'clock. No machinery had been operated since noon and the only persons in the elevator during the afternoon were a few employees working around the driers. The steam in the driers was shut off about 4 o'clock, at which time the night shift whose

duty it was to clean out dust accumulation went to work. It was these men who lost their lives.

While officers and employees of the Armour Company denied the testimony, a number of painters, not in the employ of the company, testified as to dust accumulations on beams, in and around the driers, and in the pits. They stated that this dust interfered seriously with their painting. They also stated that they were required to use extension electric cords in their work, that these were short-lived, wore out frequently and that they often received shocks in using them. Both the night and day shifts found it necessary to use these extension cords to get light for their work. It is probable that the night men were working in and about the driers and pits, where dust accumulations were thickest, that some time during the operation a defective cord either caused an employee to drop a light, breaking the globe, or caused a short circuit. Either would have been capable of setting off the suspended dust. This is borne out by the fact that the main explosion apparently occurred in and about the driers and pits near the train sheds and traveled both from the top and lower runs of the main elevator, the two waves meeting in the far end of the elevator and causing a second explosion, entirely destroying that end of the structure.

The investigation developed that, although the force of cleaners had been reduced and was insufficient, an elevator of this size is entirely too large for any force of men to keep cleaned of dust, even though modern devices for collecting and removing dust are also employed, as in this case. It also developed that a large amount of dust is needlessly introduced into elevators when grain is unloaded from grain cars. This could be avoided by passing an air suction process over the cars before unloading, but rulings of most of the middle west states prohibit this in order to protect the farmer in getting full weight for his grain.

The Singer and Schaffer explosion was caused by a careless workman dropping a case of torpedoes to the pavement while unloading a truckload of torpedoes in the rear of their place of business. There were 153 cases of torpedoes in the shipment. An analysis showed that each torpedo contained from eleven to sixteen grains of a compound of gunpowder, saltpeter and other ingredients necessary to cause explosion by friction or force of contact. Each case contained fifteen gross of torpedoes and the amount of explosive contained in the entire shipment was between six hundred and nine hundred pounds. The analyses showed the explosive force of the powder used in the manufacture of these torpedoes to be 96,000 pounds to the square inch.

The explosion rocked the entire district, which was in the thickly populated west side, and did thousands of dollars worth of damage to property.

Storage of explosives as here disclosed is in direct violation of State law and city ordinance of Chicago. Singer and Schaffer apparently were conducting a general merchandise and notion business. The investigation showed that a city inspector found illegal storage of fireworks there in 1920 and ordered its removal; that the building was closed in May, 1920, for non-compliance with the order; that on May 29, 1920, the business was allowed to reopen, with the understanding that the fireworks and explosives had been removed; but that such illegal storage was continued. It also developed that salesmen for the company stored quantities of these torpedoes and fireworks in their homes in various parts of Chicago. In one instance ten cases of torpedoes were found stored within four feet of a furnace in a home where several families reside, in a closely populated district.

The coroner's jury recommended that Singer and Schaffer be held to await grand jury action on a charge of manslaughter. This office and the Fire Attorney of Chicago jointly presented the matter to the State's Attorney of Cook County and urged immediate action.

The Fire Marshal personally conducted the investigation of both explosions.

The present statute on explosives is scarcely sufficient to control shipment and storage of explosives of the kind which caused the Singer and Schaffer explosion. It is entirely inadequate for controlling storage and sale of fireworks in localities where such storage and sale is not expressly permitted by local authorities. It is recommended that a law be passed prohibiting the sale of torpedoes of this character anywhere within the State and it is further recommended that legislation be considered, with the end in view of eliminating the sale and use of fireworks altogether, except public displays in charge of experts.

HUMAN TOLL OF THE FIRE LOSS.

The most tragic side of the fire loss is the tremendous number of deaths and injuries. It is only in the last few years that efforts have been made to tabulate these and the surprising estimate has been made that approximately twenty thousand persons lose their lives from fire or burns annually in the United States.

Statistics kept by this division show that no less than one hundred and fifty-two persons died and three hundred and fifteen were injured in this State during the last fiscal year, including the victims of the two Chicago explosions. The number is no doubt considerably larger than our figures show, as the statute does not require the reporting of casualties and we have to depend on newspaper clippings and such voluntary reports as we may receive from local officials.

Following is the record of casualties by months:

DEATHS.

Year.	Month.	Babes and Children.	Youths and middle aged.	Aged people.	Total.
1920	July	5	9	2	16
	August	1	6	1	8
	September	1	1		2
	October	4	12	1	17
	November	4	10	4	18
1921	December	11	9	1	21
	January	7	5	2	14
	February	1	11	1	13
	March		13		13
	April	5	1		6
	May	4	7	1	12
	June	7	5		12
	Total	50	89	13	152

INJURED.

Year.	Month.	Babes and children.	Youths and middle aged.	Aged people.	Total.
1920	July	7	24		31
	August	4	14		18
	September	4	6		10
	October	2	17		19
	November	5	23	1	29
1921	December	3	18		21
	January	12	18		30
	February	1	29		30
	March	25	64		89
	April	5	5		10
	May	2	16		18
	June	3	7		10
	Total	73	241	1	315

Only a comparatively small number of these casualties were the result of burning buildings. Such things as starting fires with kerosene or gasoline, use of gasoline or benzine for cleaning in the home, children playing with matches or around bonfires, smoking or striking matches while filling automobile with gasoline, clothes catching fire from open fires—these and similar causes are responsible for most of the human toll.

It is the loss of life rather than the loss of property which is awakening the people to a realization of the terrible toll of fire. Property can be insured and replaced in most cases, but a life once snuffed out is gone and permanent injuries cannot be repaired. Carelessness and negligence are responsible for practically every death and injury. This division is engaged in a continuous publicity campaign in an effort to educate the public to careful habits.

INVESTIGATIONS.

The work of the division is divided into two main branches: First, investigation of suspicious fires with the purpose of apprehending those responsible for criminal fires, and, second, inspection of property

throughout the State, with the purpose of ordering the removal of fire hazard conditions and thereby preventing fires.

The great increase in losses due to suspicious fires has been gone into at some length in the forepart of this report. There is no doubt but that there has been an increase in incendiarism because of the abnormal conditions which have existed. A crime wave has been general over the country and it would be surprising if burning property for the purpose of collecting insurance were not practiced at a time when all sorts of criminal methods have been used to secure money.

The principal cause of burning for profit is overinsurance, aggravated by quick adjustments. If the crook could not secure an abundance of insurance, he would have no object in burning. If he had to wait for his money until time had been given for an exhaustive investigation, he would be apt to ponder longer before setting a fire.

When prices dropped, overinsurance was automatically brought about, because insurance did not drop with values. In crooked fires as we meet them in our routine work, overinsurance is usually found.

In a case now under investigation, a man had about \$25,000 insurance on a building worth approximately that much. He had a fire, which, while suspicious, did little damage and presented no tangible evidence on which to work. He then placed new insurance on his building totaling about \$45,000 and within two months had another fire, during which about twenty gallons of gasoline and kerosene were removed from different rooms.

We find that local insurance agents are often careless in writing insurance, paying little or no attention to the values they are covering and sometimes to the character of the party who is asking for the insurance.

In one of our recent investigations we found that a notorious firebug had acquired a certain piece of property. The insurance agent would not write insurance in the name of the firebug's son, whereupon the property was transferred to another party and insurance was written shortly thereafter by the same agent. The property burned a little later and the facts as stated were learned.

In one town we found an agent who made a practice of writing policies without solicitation, placing the coverage at what he thought the property ought to stand and mailing the policies to the owners, who could return them or remit the premium, as they saw fit. He did this without ascertaining whether there was other insurance already in force, the result being the creation of overinsurance where such other insurance was in effect.

We sometimes find agents who will write insurance upon application by telephone, taking the word of the party at the other end of the line as to values, although they may not know who he is.

The agents do not mean to play into the hands of firebugs, but are interested in the size of their commissions, which, of course, are governed by the size of the policies.

Quick adjustments are a handicap to the investigation of fires. It is practically impossible to convict a man before a jury after the loss has been paid, as the jury is likely to presume that the insurance company must have been satisfied with the loss or it would not have paid it. Unless we are able to develop an open and shut case at the outset of an investigation, it is often difficult to hold off an adjustment, especially if the assured, because of the fact that he is being investigated, is willing to reduce his claim substantially. In the case cited above, where 20 gallons of oil were removed from a fire after the insurance had been raised from \$25,000 to \$45,000, we were reliably informed that the companies planned to settle, the idea being to swallow the loss, which happened to be small, and get off the risk before there might be another fire. Through prompt action by the division, payment was held up, while the companies got off the risk by cancelling the policies.

These are evils and abuses of insurance, the rectification of which will do more to prevent crooked fires than any other one thing. They are due to a considerable extent to competitive conditions among the companies. Local agents are in strong competition to get business. The companies do not want to get a reputation of trying to avoid payment of losses. There are indications that the companies are trying to get away from these evils and it is to be hoped that a practical way will be found.

Following is the record of the investigation activities of the division for the year:

Number of fires investigated.....	1,000
Number of arrests made.....	30
Number of persons indicted.....	26
Number of persons convicted.....	11
Number of persons acquitted.....	1
Number of indictments nolle prossed.....	3
Number of untried cases.....	11
Number of cases dismissed.....	9
Number of "no true bills" returned by the grand jury.....	1

Some of the recent fires of suspicious origin have earmarks of being the work of an organized arson ring. The division has developed some well defined leads, which of course cannot be disclosed, but investigators are quietly building up evidence which is expected to be sufficient in a short time to end the activities of the gang and convict its leaders.

INSPECTIONS.

The inspection branch of the division was under handicap during the entire year because of the Supreme Court decision holding section 9 of the Fire Marshal Act unconstitutional. It was this section which gave the division the right to inspect buildings and order the removal of hazards. As a result, while we continued to make the regular inspections and issue orders or recommendations, we were powerless to enforce them except through persuasion.

In view of the conditions, it is gratifying that approximately the same number of inspections were made and approximately the same number of compliances secured as in the previous year.

It should be noted that the Supreme Court decision did not affect the authority of the division as to fire escapes, exit doors of public buildings and hazards of volatile oils, all of which are covered by specific statutes. Innumerable improvements have been made as to exit facilities and fire escapes on public buildings as a result of the division's activities.

During the year rules governing the use, storage and sale of volatile oils were adopted under authority of the statute passed by the Fifty-first General Assembly. At this time rules applying specifically to garages are being prepared.

The Fifty-second General Assembly amended section 9 with the idea of overcoming the Supreme Court's objections. The amendments give the property owner the right of appeal to the Fire Marshal and the further right to appeal from the Fire Marshal to the County Court. The County Court may sustain, modify or set aside an order and the decision of the court is final. The amendments also give the division the right to condemn buildings which are unsafe from any cause, a right which was not entirely clear under the old law.

The most notable fire prevention achievement of the year was the Gallatin County court house case at Shawneetown. This historic old building is one of the relics of the Lincoln-Douglas debates. An inspection by the division showed the building in a state of decay and disclosed that valuable and historic records were given no protection whatever against fire. These records involved practically all the territory south of the Baltimore and Ohio Railroad.

An order was issued to repair the building and provide fireproof vaults for the records. Half the county board of supervisors resisted the order and no action was taken to comply. The Fire Marshal asked the Supreme Court for a writ of mandamus to compel the board to act and perform its statutory duty. After a battle, the writ was issued and the board of supervisors has complied with the order.

The defense entered a demurrer, attacking the authority of the Fire Marshal in issuing the order. The court held that the duty of the board to keep public buildings fit for the uses declared by law is mandatory and that any citizen of the State at large has the right to petition for a writ of mandamus to compel performance of that duty. The court also assessed costs of the suit against the members of the board who resisted the order, holding that they had committed a breach of duty in so doing.

These two features are very important, as they provide a way to require recalcitrant school boards and other bodies of public officials to provide statutory requirements in the way of fire escapes, exit doors, etc.

In face of the large fire loss, it is difficult to gauge the results of fire prevention work. Abnormal conditions entered into the loss and there were a few large individual losses which boosted the total, such as the \$2,000,000 Armour grain elevator explosion and the \$350,000 oil tank fire at Lawrenceville, caused by a bolt of lightning. Lightning caused the unreasonable loss of \$1,254,628, although lightning losses can be practically eliminated by proper protection.

Almost two-thirds of the loss in the entire State occurred in the following five classifications:

Factories	\$3,887,217
Dwellings	3,333,529
Stores	2,486,143
Barns and stables.....	1,629,192
Garages	1,121,183

Total \$12,457,264

It is hardly practical for this division to undertake inspections of dwellings, which is a matter that should be controlled by local ordinances and local officials, but special attention is needed in the other classifications. With the additional deputies provided by the Fifty-second General Assembly we expect to increase the scope of our activities effectively.

We hope to make a working agreement with the Factory Inspection Division whereby deputy factory inspectors will give attention to fire hazards in factories or notify this division of any serious fire hazards they find.

Following is a summary of the inspection activities:

Year.	Month.	Towns visited.	Inspections.	Buildings removed.	Prosecutions and fines.
1920.....	July.....	117	4,015	31	-----
	August.....	109	3,114	17	2
	September.....	137	3,872	23	1
	October.....	61	3,440	34	3
	November.....	108	3,099	31	1
	December.....	104	3,901	45	-----
1921.....	January.....	127	3,229	10	4
	February.....	101	2,590	27	-----
	March.....	113	2,382	28	-----
	April.....	171	4,030	22	-----
	May.....	150	5,088	35	1
	June.....	187	4,205	18	-----
Total.....		1,485	42,965	321	12

EDUCATIONAL ACTIVITIES.

It has long been argued that education of the public is the real hope of fire prevention and that the place to begin education is in the schools. Cooperating with the Chicago Association of Commerce, the Fire Marshal appointed a junior fire marshal in each of a score of Chicago high schools. The results were remarkable. The boys organized and directed fire drills, made daily inspections of buildings, halls and exits, caused hazards to be removed from school buildings, conducted surveys of the

school districts with the aid of the civics classes, caused the school dramatic clubs to give fire prevention plays, gave talks on fire prevention and wrote fire prevention articles for the school papers. Printing classes in some schools turned out literature for posting and distribution. Most of the boys appointed a staff of assistants to have charge of the different phases of the work. At the close of the school year a medal was given to each junior.

The plan was so successful that it will be continued during the coming school year and extended throughout the State. Only a few down State schools were reached last year.

Fire Prevention Day in 1920 was marked by the issuance of a proclamation by President Wilson, the first time a presidential proclamation was issued. The Fire Marshal of Illinois, who was president of the Fire Marshals' Association of North America, was instrumental in securing this proclamation. The usual Governor's proclamation was issued in Illinois and a state-wide observance followed. Fire Prevention Day in 1921 will mark the fiftieth anniversary of the Chicago fire and a greater observance than ever is planned.

During the year the usual educational work of the division has been carried on by means of public addresses by the Fire Marshal and by articles in the press and magazines, bulletins, pamphlets and printed cards.

THE STATISTICAL RECORD.

PROPERTY LOSS—AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1920 TO JUNE 30, 1921.

Total value of buildings, in which fires have occurred.....	\$106,763,835
Total damage to said buildings.....	10,555,009
Total insurance on said buildings.....	57,116,235
Total value of personal property jeopardized by fire.....	64,792,219
Total damage to said personal property.....	9,452,126
Total insurance on said personal property.....	39,320,735
Total fire loss in the entire State of Illinois.....	20,007,135
Total number of fires in the entire State of Illinois.....	12,327

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1920 TO JUNE 30, 1921.

Total value of buildings, in which fires have occurred.....	\$34,275,895
Total damage to said buildings.....	7,538,904
Total insurance on said buildings.....	17,681,625
Total value of personal property jeopardized by fire.....	19,629,419
Total damage to said personal property.....	6,200,331
Total insurance on said personal property.....	11,111,150
Total fire loss outside the City of Chicago.....	13,739,235
Total number of fires outside the City of Chicago.....	6,329

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1920 TO JUNE 30, 1921.

Total value of buildings, in which fires have occurred.....	\$72,487,910
Total damage to said buildings.....	2,016,105
Total insurance on said buildings.....	39,434,610
Total value of personal property jeopardized by fire.....	45,162,800
Total damage to said personal property.....	3,251,795
Total insurance on said personal property.....	28,209,585
Total fire loss in the City of Chicago.....	6,267,900
Total number of fires in the City of Chicago.....	5,998

**NUMBER OF FIRES AND THE LOSS THEREFROM IN THE ENTIRE STATE OF ILLINOIS
FOR EACH MONTH FROM JULY 1, 1920 TO JUNE 30, 1921.**

Month and year.	Number of fires.	Fire loss.	Month and year.	Number of fires.	Fire loss.
July, 1920.....	1,003	\$1,327,601	February, 1921.....	1,087	\$1,736,632
August, 1920.....	916	1,545,098	March, 1921.....	957	3,426,289
September, 1920.....	904	1,187,992	April, 1921.....	863	957,954
October, 1920.....	1,006	1,459,909	May, 1921.....	950	1,164,483
November, 1920.....	1,302	2,119,148	June, 1921.....	816	889,644
December, 1920.....	1,193	2,410,443			
January, 1921.....	1,330	1,781,942	Total.....	12,327	\$20,007,135

**NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS OUTSIDE
THE CITY OF CHICAGO FOR EACH MONTH FROM JULY 1, 1920 TO JUNE 30, 1921.**

Month and year.	Number of fires.	Fire loss.	Month and year.	Number of fires.	Fire loss.
July, 1920.....	503	\$1,047,731	February, 1921.....	636	\$1,435,627
August, 1920.....	427	1,213,058	March, 1921.....	576	1,214,349
September, 1920.....	404	944,747	April, 1921.....	499	760,469
October, 1920.....	408	860,634	May, 1921.....	493	904,883
November, 1920.....	648	1,653,848	June, 1921.....	377	537,539
December, 1920.....	609	1,991,228			
January, 1921.....	749	1,145,122	Total.....	6,329	\$13,739,235

**NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH
MONTH FROM JULY 1, 1920 TO JUNE 30, 1921.**

Month and year.	Number of fires.	Fire loss.	Month and year.	Number of fires.	Fire loss.
July, 1920.....	500	\$ 279,870	February, 1921.....	451	\$ 301,005
August, 1920.....	489	302,040	March, 1921.....	381	2,211,940
September, 1920.....	500	243,245	April, 1921.....	364	197,485
October, 1920.....	598	599,275	May, 1921.....	457	259,600
November, 1920.....	654	465,300	June, 1921.....	439	352,105
December, 1920.....	584	419,215			
January, 1921.....	581	636,820	Total.....	5,998	\$6,267,900

**CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE
NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY
1, 1920 TO JUNE 30, 1921.**

Cause.	No.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	845	\$ 994,817
2. Conflagrations.....	35	105,160
3. Electricity (except electric irons and similar small devices).....	529	888,632
4. Explosions.....	155	2,457,670
5. Exposure.....	811	1,079,622
6. Fireworks, fire crackers, balloons, etc.....	52	26,041
7. Friction, sparks occasioned by running machinery.....	24	482,525
8. Gas, natural and artificial.....	268	223,285
9. Hot ashes and coals, open fires.....	285	112,494
10. Hot grease, oil, tar, wax, asphalt (ignition of).....	108	87,055
11. Hot irons, including electric devices.....	102	58,076
12. Incendiarism.....	201	240,190
13. Lightning, buildings rodde.....	12	16,035
14. Lightning, buildings not rodde.....	322	1,238,593
15. Matches, smoking.....	1,693	677,126
16. Miscellaneous, cause known, but not classified (for unknown see No. 27).....	127	135,293
18. Open lights.....	190	65,113
19. Petroleum and its products.....	416	221,295
20. Rubbish and litter.....	376	91,720
22. Sparks, arising from combustion (other than 23).....	188	388,639
23. Sparks, on roofs.....	2,353	794,191
24. Spontaneous combustion.....	406	910,404
25. Steam and hot water pipes.....	15	12,660
26. Stoves, furnaces, boilers and their pipes.....	752	537,693
27. Unknown.....	1,621	6,604,801
28. Unknown origin, but investigation important.....	441	1,558,015
	12,327	\$20,007,135

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1920 TO JUNE 30, 1921.

Class of property.	No.	Damage.
1. Apartment houses, flats and rooming houses.....	1,426	\$ 373,217
2. Amphitheatres, grand stands, etc.....	3	2,010
3. Bakeries.....	46	56,347
4. Barber shops.....	21	12,444
5. Barns and stables (not liveryes).....	950	1,629,192
6. Churches.....	63	116,807
7. Depots, stations, waiting rooms, etc.....	16	18,775
8. Dry cleaning establishments.....	20	10,022
9. Dry houses, kilns, rooms, etc.....		
10. Dwellings.....	5,125	3,333,529
11. Elevators and grain warehouses.....	16	2,383,082
12. Factories.....	461	3,887,217
13. Foundries.....	34	116,920
14. Garages.....	456	1,121,183
15. Granaries.....	49	101,257
16. Green houses.....	1	25
17. Halls, (lodge) (club) (dance) (public) etc.....	59	203,033
18. Hotels and boarding houses.....	86	67,033
19. Hospitals.....	9	3,225
20. Ice houses.....	24	98,622
21. Jails.....	1	25
22. Laundries.....	25	13,200
23. Liveryes.....	5	6,080
24. Mills (flour).....	7	201,910
25. Mills (saw and planing).....	5	7,200
26. Office buildings.....	49	112,334
27. Oil houses.....	1	225
28. Photo studios.....	1	5
29. Power houses, pump houses and engine houses.....	15	15,270
30. Restaurants.....	102	72,585
31. Saloons.....	26	7,425
32. Sheds.....	800	165,799
33. Smoke houses.....	30	3,260
34. Silos.....	8	3,150
35. Stores.....	1,012	2,486,143
36. Shops, (carpenter, blacksmith, etc.).....	186	182,637
37. Schools (colleges, seminaries, etc.).....	69	595,514
38. Theatres and motion picture houses.....	20	40,700
39. Warehouses.....	124	753,668
40. Miscellaneous.....	126	143,865
FIRES OTHER THAN BUILDINGS.		
1. Automobiles.....	525	96,747
2. Boats.....	5	17,875
3. Bridges.....	9	28,210
4. Cars, (railway) (electric) etc.....	144	312,124
5. Docks, (coal) etc.....	6	171,035
6. Fences.....	20	226
7. Grain and hay.....	67	17,107
8. Junk yards.....	7	6,450
9. Lumber yards.....	15	18,576
10. Tanks (water), etc.....	6	358,310
11. Tents.....	9	220
12. Threshing outfits.....	6	3,655
13. Trestles.....	4	3,560
14. Wagons.....	20	380
Mine tipples.....	4	57,500
Aeroplanes and hangars.....	2	127,000
Packing plant.....	1	413,225
	12,327	\$20,007,135

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS JULY 1, 1920 TO JUNE 30, 1921.

	Number.	Damage.		Number.	Damage.
Adams.....	93	\$ 255,010	Livingston.....	61	93,162
Alexander.....	82	60,750	Logan.....	40	111,766
Bond.....	27	29,295	Macon.....	108	271,613
Boone.....	26	28,490	Macoupin.....	76	86,099
Brown.....	20	39,259	Madison.....	189	796,275
Bureau.....	48	122,670	Marion.....	76	221,410
Calhoun.....	1	1,874	Marshall.....	38	111,904
Carroll.....	28	30,480	Mason.....	46	74,775
Cass.....	29	8,405	Massac.....	18	11,618
Champaign.....	179	128,612	McDonough.....	33	41,101
Christian.....	50	24,457	McHenry.....	48	109,490
Clark.....	30	53,590	McLean.....	142	302,346
Clay.....	37	58,440	Menard.....	20	69,125
Clinton.....	31	24,338	Merceer.....	25	64,814
Coles.....	130	379,630	Monroe.....	4	43,800
Cook.....	6,571	6,994,833	Montgomery.....	60	61,008
Crawford.....	43	161,245	Morgan.....	46	81,396
Cumberland.....	17	29,565	Moultrie.....	17	38,305
DeKalb.....	108	185,471	Ogle.....	31	141,843
DeWitt.....	30	107,546	Peoria.....	91	697,321
Douglas.....	32	135,085	Perry.....	39	6,255
DuPage.....	52	215,974	Piatt.....	20	21,050
Edgar.....	51	43,334	Pike.....	24	180,219
Edwards.....	9	19,355	Pope.....	15	24,155
Effingham.....	21	67,381	Pulaski.....	3	1,900
Fayette.....	36	65,030	Putnam.....	18	19,605
Ford.....	16	22,648	Randolph.....	25	73,881
Franklin.....	49	72,738	Richland.....	26	54,755
Fulton.....	114	147,013	Rock Island.....	135	211,277
Gallatin.....	17	46,915	Saline.....	41	58,182
Greene.....	28	22,828	Sangamon.....	358	735,510
Grundy.....	26	116,950	Schuyler.....	9	29,853
Hamilton.....	23	21,191	Scott.....	7	6,240
Hancock.....	47	88,060	Shelby.....	39	56,193
Hardin.....	2	2,610	Stark.....	12	15,610
Henderson.....	18	32,151	St. Clair.....	336	718,341
Henry.....	103	120,354	Stephenson.....	59	86,631
Iroquois.....	59	144,119	Tazewell.....	32	67,113
Jackson.....	81	43,877	Union.....	22	37,408
Jasper.....	32	47,639	Vermilion.....	184	153,209
Jefferson.....	63	51,535	Wabash.....	30	47,855
Jersey.....	10	22,225	Warren.....	38	417,302
Jo Daviess.....	50	29,816	Washington.....	13	79,347
Johnson.....	9	58,935	Wayne.....	30	65,912
Kane.....	105	594,614	White.....	25	35,970
Kankakee.....	68	169,711	Whiteside.....	111	153,706
Kendall.....	15	30,665	Will.....	146	198,566
Knox.....	118	333,585	Williamson.....	90	82,845
Lake.....	93	358,829	Winnebago.....	115	262,724
LaSalle.....	147	355,536	Woodford.....	21	116,083
Lawrence.....	32	414,019			
Lee.....	26	51,525			
				12,327	\$20,007,135

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FIFTH ANNUAL REPORT

OF

The Department of Trade and Commerce

Division of Fire Prevention

July 1, 1921
TO
June 30, 1922

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GEORGE A. BARR, Director

(Reprinted from the Fifth Administrative Report. Printed by authority of the State of Illinois.)

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SPRINGFIELD, ILL.
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DIVISION OF FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

Keeping up the record-breaking pace established by the preceding year, fire losses in the United States again approximated the huge total of half a billion dollars during the period covered by this report, according to authoritative estimates. There was no tendency towards a letting up, but rather a tendency to increase, taking the nation as a whole.

Under the circumstances, it is some satisfaction to note that the Illinois loss was about a half million dollars under the loss for the preceding fiscal year, but there is a long way to go before losses will be brought back to where they were during war and pre-war years.

The loss in Illinois during the fiscal year was \$19,537,423. Losses by fiscal years since the inauguration of the Civil Administrative Code have been:

Year.	No. Fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1921.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423

The sharp increase in 1919-1920, the further increase in 1920-1921 and persistence of the high level in 1921-1922 are striking. Two reasons may be ascribed for this. During the latter part of the war and for some months thereafter there was a tremendous inflation of values of all commodities. Everything that burned was figured on a basis of these high values and this doubtless accounts largely for the marked increase in value of property burned which was noted in 1919-1920. The period of inflation was followed by a period of deflation and industrial depression, marked by business losses, failures and unemployment. At such times many are tempted to burn property to collect the insurance, rather than face their losses, and there has been a wave of incendiary fires throughout the country for the last year and a half or two years. In view of the fact that crime of all sorts flourished on an unprecedented scale during this time, it is not surprising that the crimes of arson and burning to defraud the insurer also reached unprecedented proportions. This situation no doubt explains the high loss records of the last two fiscal years.

It is impossible to know how many fires are due to incendiarism. Thousands of them are recorded as of unknown origin, because the destruction was so complete as to make the determination of the cause impossible. An official of a large fire insurance company has estimated

that forty-five per cent of all fires within the last year have been incendiary. Other authorities place estimates at twenty-five to thirty per cent. My own estimate is that the number of incendiary fires in Illinois has been as high as twenty-five per cent of the total at times during this period of depression and readjustment, while the loss caused by such fires has been as high as fifty per cent of the total loss of the State. Incendiary fires are set to bring about total destruction and hence the loss from such fires usually is total or almost so.

In normal times the trade of setting fires is confined almost entirely to the portion of the criminal element known as the professional arsonists, who make a business of getting all the insurance they can on certain property or stocks of merchandise and later set them on fire. In the times we have been experiencing we have found "fire-making opportunists" in every walk of life, from the business man or manufacturer down to the humble cottage owner.

When the drop in prices hit any line of manufacturing or merchandising, a series of fires immediately followed in that line. The insurance coverage was usually on the basis of values before the drop.

There have been cases of farmers burning their property because they faced mortgages which they could not meet. Farmers were hard hit by the depression, especially those who were paying for land purchased at high, wartime prices, and some yielded to temptation.

Laborers out of work have burned their homes to get money. We have had a number of instances of foreign laborers, who burned their homes for the insurance money, preparatory to leaving for their native lands with savings accumulated from big wages made during the war.

Many storekeepers, facing failure, have touched a match to their stocks after seeing to it that they were well covered with insurance.

There have been many incendiary fires due to labor troubles and strike violence.

INVESTIGATIONS.

In view of the above brief summary, it is apparent that investigation of suspicious fires has taxed the resources of the division. We put on additional investigators by reason of an increased appropriation, but we were frequently obliged to use inspectors on investigation work as well. The tabulated record of investigations for the year is:

Number of fires investigated.....	806
Number of investigations closed.....	569
Number of investigations open.....	225
Number of arrests.....	55
Number of indictments returned.....	43
Number of indictments nolle prossed.....	3
Number of no true bills returned.....	15
Number found guilty.....	14
Number found not guilty.....	12
Number of cases dismissed.....	6

One of the important cases cleared up by the division was the burning of the Hardin County courthouse, December 2, 1921. The county clerk of the county was indicted for arson and awaits trial. An al-

leged accomplice confessed, pleaded guilty and was sentenced to the penitentiary. The alleged motive for this fire was the destruction of certain records.

Most of the incendiary fires, however, are prompted by a desire to collect the insurance. In most cases investigated we find overinsurance and I believe that the ease with which overinsurance is obtained is responsible in large measure for the crooked fires.

In one of our cases we found \$16,000 of insurance on an apartment building which was not worth half of that amount. Until shortly before the fire the owner carried \$23,000 of insurance. The fire occurred shortly after he had doubled the amount and one of the worst features of the case was that an insurance man was responsible for the appraisalment which enabled him to get this excessive insurance.

Investigation of another case showed \$7,000 insurance on a \$2,000 stock of merchandise. The fire occurred five days after the insurance was taken out.

A grocery store loss revealed a stock of \$1,000, covered by \$10,900 of insurance.

In a farm loss there were values of about \$10,000 and insurance of \$23,000.

These are some of the more extreme cases, but almost every suspicious fire investigated has revealed overinsurance in greater or less degree. Had the agents who wrote the insurance taken the pains to inspect the risks before writing the policies and thus determine the actual values, most of these fires doubtless would have been prevented. We have found that such inspections by agents are the exception rather than the rule, at least in the fires which we have been called upon to investigate. In fact, we find that a great many agents actually encourage overinsurance, doubtless because a larger policy means a larger commission. This, of course, creates the temptation to burn; at least it is apt to make the policy holder careless as to whether his place catches fire.

Another feature revealed by our investigations is the large number of dilapidated old buildings, of scarcely any value, which have been insured liberally in advance of burning, and their contents insured in proportion. This class of buildings cannot be classed as desirable risks in any sense of the word, but they are being "sold" to the insurance companies right along at fancy prices.

These conditions are dwelt upon because they get at the heart of the arson problem. Without overinsurance the motive for crooked fires would be removed, for there would be no profit in them. I do not believe that overinsurance has ever been so general as it has been in the last year or two, and certainly we have never had such a wave of suspicious losses.

A good deal of the careless underwriting responsible for these conditions was inherited from the war and the period immediately following. When values went skyrocketing, insurance coverage followed values. When values dropped, a tremendous amount of overinsurance was automatically created. Business had to go through the throes of readjustment and so did insurance, but a good deal of the recklessness in underwriting, born of the days of high values and easy money, has continued. Solution of the arson problem depends in large measure on the elimination of overinsurance so far as possible. It could be done if the insurance written were based on an actual inspection of values.

This is a matter for the insurance companies to work out, but the importance of the proposition is apparent when it is borne in mind that the crimes of arson and burning to defraud are among the hardest to prove. The first thing which must be established in a criminal case is that the fire was set by design and that the defendant set the fire or caused it to be set. Excessive insurance and other circumstances may be proved to show motive, but they of themselves do not necessarily establish the crime. Usually the burning is so complete that the cause of the fire cannot be ascertained. The suspect commits the crime at an hour when he will not be seen, or he arranges fuses or other devices which enable him to be miles away when the fire starts. Often he has an accomplice do the work. Hence, the evidence in almost every case is circumstantial rather than direct.

It is difficult to prove a circumstantial case before an average jury. State's attorneys realize this and as a rule are not enthusiastic about prosecuting a case unless the evidence is overwhelming. For these reasons, we have concentrated our efforts largely on prosecution of cases which could be developed most strongly. We are holding in abeyance many cases in which we are satisfied of the guilt of the suspect, but have not yet been able to develop the evidence necessary to convict.

One jury acquitted a man after we had proved that he had an altercation with a neighbor, that the neighbor's barn was set on fire the same night, that the stockinged feet of the suspect fit tracks in the mud leading from the barn and that the socks, with fresh mud still on them, were found hidden in his room the next day. When the verdict was returned the presiding judge openly expressed his surprise.

In another case the jury reported they stood ten to two for conviction. A youth had told how he was engaged by the suspect to burn a building, but decided to tell the authorities instead. A deputy sheriff and a deputy fire marshal had testified to secreting themselves and hearing the suspect give the final instructions. The judge sent the jury back to try to agree. They finally decided to acquit.

The supreme court reversed one conviction, holding that the jury erred in convicting the defendant on the evidence.

These instances are cited to show the difficulties encountered in securing convictions.

A number of very good cases which were developed during the year are docketed for trial at coming terms of court.

We have observed that in communities where convictions have been obtained the arson situation has improved at once. Persistent investigation of fires, even though we could not secure sufficient evidence to prosecute, usually has the same effect, as the firebug fears an investigation. We can hardly expect permanent improvement in the incendiary fire situation, however, until the economic readjustment has been completed and the country as a whole is again on a settled, prosperous basis.

INSPECTIONS.

Fire prevention activities have been conducted along the same lines as outlined in previous reports, but with an increased force of inspectors. The last General Assembly provided appropriations for 42 deputies, as against 25 formerly employed. Of these men, 32 have been engaged in inspection work. This has enabled us to increase greatly the scope of inspections and has made it possible to visit communities with greater frequency. This is important, as frequent visits mean that orders are checked up promptly and property owners are made to realize that the department means to have orders complied with.

The net result of this increased activity is shown in an average of 5,000 inspections a month, as against about 3,500 last year. In many cases phenomenal results have been secured by the deputies in the way of compliances with orders, the compliances being complete in some cities and villages. In an increasing number of cities we have brought about a splendid cooperation both on part of local authorities and property owners. They have come to realize that our work is rendered in the spirit of service and have become enthusiastic about keeping fire hazards at a minimum.

In view of the results indicated above, it would be unusual under normal conditions for the fire loss to remain at its peak, for our systematic inspections throughout the State are constantly eliminating both common and special fire hazards. The explanation would seem to lie in the large incendiary loss mentioned in the fore part of this report.

Classes of buildings suffering the greatest losses were: dwellings, \$4,307,738; factories, \$3,412,913; stores, \$2,263,001; barns and stables, \$1,874,180; office buildings, \$1,154,804; warehouses, \$1,028,800; garages, \$926,785. The total for these seven classes was \$14,968,221, or more than \$1,700,000 over the entire fire loss for the State in 1918-1919.

The dwelling loss, it is noted, leads the list as usual. It is out of the question for the division to attempt to inspect dwellings, because of the large number and the wide area they are scattered over. This class of buildings must necessarily be left largely to the local authorities.

The size of the dwelling loss is a severe indictment of the negligence of the average property owner so far as the safety of his home is concerned.

As for factories, stores, warehouses and office buildings the division inspects them at frequent intervals and on the whole reports have shown them in favorable condition in most cases. One reason for the large loss in these classes was the great conflagration in Chicago in March, which swept an entire block devoted to these occupancies. This was the most disastrous fire in the history of Chicago since the big fire in 1871. Another reason is that incendiary losses have been large in stores, factories and warehouses.

The garage loss is deceiving. While the total charged to garages is \$926,785, a large amount of the loss credited to barns and stables should rightfully be charged to the garage loss. The tremendous increase in the number of automobiles, the scarcity of buildings and the high cost of new buildings have caused thousands of old barns and livery to be converted to use for garages, repair shops and taxi stations. In some cases a portion of the building is used for livery and the rest for a garage or repair shop, with an inflammable partition between. When a fire starts in one of these buildings, the whole structure is usually in flames before the fire department arrives, owing to oil, gasoline and combustible construction, and the loss is usually total. Garages are special hazards because of the dangers due to gasoline and oils. These dangers can be overcome only by special safeguards, which as yet do not seem to be fully appreciated by the trade. We expect to adopt in the near future a set of rules outlining the type of building which may be used for a garage or repair shop, together with regulations for heating and ventilating equipment to remove the explosive gases. Enforcement of these regulations ought to reduce the garage loss substantially.

The campaign to get rid of old dilapidated buildings and sheds has been continued with satisfactory results. These are fire traps and conflagration breeders. Many of them are landmarks which persist in the heart of valuable business property which has grown up about them. They are not only a constant menace to business districts, but increase the insurance rate materially for the property they jeopardize. Each month we are causing the removal of a number of these structures.

We have devoted special efforts throughout the State to enforce the fire escape statute by requiring schools, theatres, public halls and other buildings covered by the statute to provide sufficient and adequate fire escapes, exits and panic bolts for exit doors. Attention of those responsible for buildings has been called not only to the statutory requirements, but to their personal liability in case of death or injury as a result of failure to comply with the requirements. The results have been truly remarkable. Hundreds of installations have been made and

others are in the course of construction. We require blue prints to be filed for approval before construction begins so that the installation will be satisfactory when completed. In most cases we have encountered a spirit of cooperation and a desire to make buildings as safe as possible for those who occupy them, especially school children.

GASOLINE AND VOLATILE OILS.

The matter of regulating the storage and sale of gasoline and volatile oils has proven to be one of the biggest problems of the division, for, with the increased use of automobiles, trucks and tractors, these storage stations are rapidly being placed in cities and towns all over the State. In some of the cases it has been necessary to resort to court action to bring about the compliance with the rules as promulgated under the provisions of the statute, but in the great majority of cases the oil companies and dealers have cooperated in making these installations comply with the rules and in eliminating as far as possible all hazards connected with these properties. In case of bulk storage stations we also require blue prints to be submitted in advance of construction, except in cities or villages which have their own ordinances on the subject. Many local ordinances, however, require approval by this office.

The loss due to defective electrical installations for some years has been hovering around the million dollar mark and during the past year a plan was inaugurated for making special electrical inspections. Splendid results have been shown from this work. Several cities and towns have been practically re-wired and all electrical installations made to conform to the National Electrical Code and General Order No. 5 of this division. The work will be enlarged upon and no doubt greater results will be shown for the coming year.

It is only fair to state that a fine spirit of cooperation has been shown by the Illinois Commerce Commission in the matter of having outside and pole line construction brought up to standard regulations in a great many of these cities.

It has been necessary to resort to prosecution in many cases to enforce orders. Prosecutions and fines practically doubled during the year, but the ratio is only one prosecution to each 250 inspections. We try to secure results by convincing the property owner that it is to his interest to comply and invoke the law only when necessary.

Two cases deserve special mention. One was in the western part of the State, where the owner positively refused to clean up his premises. Every effort was made to secure a compliance, but without avail. Finally the matter was taken to the State's attorney and a fine was imposed, but the property owner still refused to comply. He was promptly re-arrested and fined the second time, and still was defiant, but when arrested the third time and given the maximum fine of \$50 and costs he gave up the

battle and complied with the orders. It cost him \$143.50 to make up his mind to be a law abiding citizen.

A case in southern Illinois involved an influential citizen of the city, who owned a great deal of property. One of these properties was occupied as a picture show. An inspection showed that the exit facilities were very deficient and orders were issued to provide proper exits. The owner took exception to the orders and in a letter to the office refused point-blank to comply. A deputy was immediately sent to this city and conferred with the owner, but he still stood pat and refused to comply. The matter was then taken to the State's attorney, the property owner was arrested and the case set for trial. At first he used every influence to have the case dropped. Finally, failing to get results in that direction, he secured workmen and had them work night and day so as to have the order complied with before the date set for the trial, at which time he paid the costs in the case.

LOSS OF LIFE.

The most deplorable feature of the fire loss is the loss of life and injuries due to fire or burns. Our records for the year show deaths of 155 persons, of whom 80 were male and 75 female. Sixty-seven were babies and children, 68 youths and middle aged persons, and 20 elderly persons. Three hundred and forty-eight were injured, 212 being male and 136 female. Of the victims 73 were babies and children, 274 youths and middle aged and one an elderly person. Few of these casualties resulted from burning buildings, but were caused by carelessness with oil, lamps, flames, matches, bonfires, fireworks and the like.

EDUCATIONAL WORK.

Fire Prevention day was observed on a greater scale than ever before. Forty thousand colored posters and 30,000 copies of the Governor's proclamation were distributed, reaching every hamlet in the State through the mayors, fire chiefs, town clerks, ministers, public schools, chambers of commerce and civic organizations. We also sent out thousands of letters and supplied the press with material.

Throughout the year we have distributed fire prevention literature as liberally as our funds would permit.

The fire marshal has made numerous addresses before chambers of commerce and civic organizations throughout the State. In this way the fire prevention problem has been brought in a practical way before the organizations which are most interested and which are in a position to wield organized leadership in their communities.

THE STATISTICAL RECORD.

PROPERTY LOSS—AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1921, TO JULY 1, 1922.

Total value of buildings, in which fires have occurred.....	\$152,116,060
Total damage to said buildings.....	10,944,121
Total insurance on said buildings.....	84,783,857
Total value of personal property jeopardized by fire.....	58,928,738
Total damage to said personal property.....	8,593,302
Total insurance on said personal property.....	37,606,704
Total fire loss in the entire State of Illinois.....	19,537,423
Total number of fires in the entire State of Illinois.....	14,214

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1921 TO JULY 1, 1922.

Total value of buildings, in which fires have occurred.....	\$48,528,395
Total damage to said buildings.....	8,151,336
Total insurance on said buildings.....	27,548,477
Total value of personal property jeopardized by fire.....	18,349,448
Total damage to said personal property.....	5,888,217
Total insurance on said personal property.....	10,184,069
Total fire loss outside the City of Chicago.....	14,039,553
Total number of fires outside the City of Chicago.....	9,187

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1921, TO JULY 1, 1922.

Total value of buildings, in which fires have occurred.....	\$103,587,665
Total damage to said buildings.....	2,792,785
Total insurance on said buildings.....	57,235,380
Total value of personal property jeopardized by fire.....	40,579,290
Total damage to said personal property.....	2,705,085
Total insurance on said personal property.....	27,422,635
Total fire loss in the City of Chicago.....	5,497,870
Total number of fires in the City of Chicago.....	5,027

NUMBER OF FIRES AND THE LOSS THEREFROM, IN THE STATE OF ILLINOIS, FROM JULY 1, 1921 TO JULY 1, 1922.

Month.	Number of Fires.	Fire Loss.	Month.	Number of Fires.	Fire Loss.
July	1,212	\$2,184,002	February	1,916	1,866,560
August	956	1,419,249	March	1,095	3,573,843
September	757	1,020,802	April	904	737,888
October	1,138	1,363,140	May	844	1,174,375
November	980	989,081	June	1,005	1,349,790
December	1,210	1,417,332			
January	2,197	2,441,361		14,224	\$19,537,423

NOTE—The large loss for the month of March was due to the big fire at Jackson and Canal Streets, Chicago, March 15, which swept a whole block and was the largest conflagration in Chicago since the famous fire of 1871. Unofficial estimates of the loss ranged from \$5,000,000 to \$8,000,000. The official estimates of the Chicago Fire Department, which are used in this report, are as follows: Values of property involved, \$4,619,000; loss, \$2,388,800; insurance, \$3,017,750.

NUMBER OF FIRES AND THE LOSS THEREFROM, OUTSIDE THE CITY OF CHICAGO, FROM JULY 1, 1921 TO JULY 1, 1922.

Month.	Number of Fires.	Fire Loss.	Month.	Number of Fires.	Fire Loss.
July	632	\$1,921,057	February	1,450	1,643,295
August	572	1,163,714	March	716	1,001,953
September	468	864,542	April	582	525,328
October	752	1,122,250	May	495	911,905
November	621	720,106	June	551	1,140,420
December	730	1,090,452			
January	1,618	1,934,531		9,187	\$14,040,553

NUMBER OF FIRES AND THE LOSS THEREFROM, IN THE CITY OF CHICAGO, FROM JULY 1, 1921 TO JULY 1, 1922.

Month.	Number of Fires.	Fire Loss.	Month.	Number of Fires.	Fire Loss.
July	580	\$ 262,945	February	466	223,265
August	384	255,535	March	379	2,571,890
September	289	156,260	April	322	212,560
October	386	240,890	May	349	262,470
November	359	263,975	June	454	209,370
December	480	326,880			
January	579	506,830			
				5,027	\$5,497,870

LIVES LOST AND PEOPLE INJURED BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1921 TO JULY 1, 1922.

	Babes and Children.	Youths and Middle Aged.	Aged.
Males	80	37	8
Females	75	31	12
Total	155	68	20

INJURIES.

	Babes and Children.	Youths and Middle Aged.	Aged.
Males	212	178	1
Females	136	96	0
Total	348	274	1
Total Dead and Injured.....	503	342	21

CLASSIFICATION OF CAUSES, NUMBER OF FIRES AND THE LOSS THEREFROM ACCORDING TO CAUSES, FROM JULY 1, 1921 TO JULY 1, 1922.

Cause.	No.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective..	890	\$ 830,021
2. Conflagrations		
3. Electricity (except electric irons and similar small devices) ..	697	1,102,825
4. Explosions	318	695,719
5. Exposure	719	3,014,779
6. Fireworks, fire crackers, balloons, etc.....	42	9,045
7. Friction, sparks occasioned by running machinery.....	21	20,952
8. Gas—Natural and artificial.....	165	27,708
9. Hot ashes and coals, open fires.....	252	76,737
10. Hot grease, oil, tar, wax, asphalt, (ignition of).....	87	102,695
11. Hot irons, including electric devices.....	79	42,588
12. Incendiarism	256	429,579
13. Lightning—buildings rodde.....	21	4,205
14. Lightning—buildings not rodde.....	438	887,588
15. Matches, smoking	1,520	531,333
16. Miscellaneous—Cause known, but not classified (for unknown see No. 25).....	119	242,768
17. Open lights	215	47,063
18. Petroleum and its products.....	445	266,329
19. Rubbish and litter	549	160,976
20. Spark—Arising from combustion (other than 21).....	221	155,126
21. Sparks—On roofs	3,424	936,340
22. Spontaneous combustion	464	1,695,113
23. Steam and hot water pipes.....	73	80,333
24. Stoves, furnaces, boilers and their pipes.....	1,088	1,617,090
25. Unknown	1,922	5,948,808
26. Unknown origin, but investigation important.....	189	611,698
	14,214	\$19,537,423

CLASSIFICATION OF PROPERTY BURNED, NUMBER OF FIRES AND THE
FIRE LOSS ACCORDING TO PROPERTY DESTROYED FROM JULY 1,
1921, TO JULY 1, 1922.

Class of Property.	No.	Damage.
1. Apartment houses, flats and rooming houses.....	1,175	\$ 405,809
2. Amphiheaters, grand stands, etc.....	2	20,650
3. Bakeries	34	37,746
4. Barber Shops	34	16,409
5. Barns and stables (not liveryes).....	1,053	1,874,180
6. Churches	80	519,379
7. Depots, stations, waiting rooms, etc.....	31	19,963
8. Dry cleaning establishments	16	7,880
9. Dry houses, kilns, rooms, etc.....	5	4,003
10. Dwellings	6,976	4,307,738
11. Elevators and Grain Warehouses.....	28	237,520
12. Factories	418	3,412,913
13. Foundries	23	29,104
14. Garages	525	926,785
15. Granaries	48	55,428
16. Green houses	6	5,650
17. Halls, (lodge) (club) (dance) (public) etc.....	66	53,566
18. Hotels and boarding houses.....	62	74,429
19. Ho pitals	5	3,830
20. Ice houses	9	31,505
21. Jails .....	.....	.....
22. Laundries	25	17,182
23. Liveryes	3	845
24. Mills (flour)	7	46,528
25. Mills (saw and planing).....	5	28,573
26. Office Buildings	83	1,154,804
27. Oil houses	6	7,110
28. Photo studios	8	10,450
29. Power houses, pump houses and engine houses.....	30	142,964
30. Re taurants	95	93,617
31. Saloons	40	49,420
32. Sheds	742	213,908
33. Smoke houses	33	7,440
34. Silos	9	5,790
35. Stores	1,094	2,263,001
36. Shops, (carpenter, blacksmith, etc.).....	196	306,781
37. Schools, (colleges, seminaries, etc.).....	66	335,110
38. Theatres and motion picture houses.....	24	153,231
39. Warehouses	137	1,028,800
40. Miscellaneous	181	377,304

FIRES OTHER THAN BUILDINGS.

1. Automobiles	596	\$106,733
2. Boats	7	270,910
3. Bridges	5	713
4. Cars, (railway) (electric), etc.....	91	136,420
5. Docks, (coal), etc.....	8	43,320
6. Fences	15	212
7. Grain and hay.....	62	7,488
8. Junk yards	5	17,460
9. Lumber yards	13	200,202
10. Tanks (water), etc.	4	4,650
11. Tents	9	585
12. Threshing outfits	6	6,275
13. Trestles	1	40,000
14. Wagons	11	1,110
Arsenal	1	364,000

14,214 \$19,537,423

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN EACH COUNTY IN THE STATE OF ILLINOIS FROM JULY 1, 1921 TO JULY 1, 1922.

Class of Property.	No.	Damage.	Class of Property.	No.	Damage.
Adams	161	\$ 97,501	Livingston	74	107,904
Alexander	119	64,455	Logan	74	160,189
Bond	17	21,793	Macon	164	127,811
Boone	32	47,207	Macoupin	94	179,583
Brown	30	68,565	Madison	255	302,528
Bureau	77	89,528	Marion	53	38,069
Calhoun	2	11,500	Marshall	31	47,525
Carroll	47	43,593	Mason	34	260,648
Cass	65	21,580	Massac	41	36,909
Champaign	260	176,165	McDonough	31	125,315
Christian	110	217,636	McHenry	48	114,789
Clark	72	136,737	McLean	174	246,720
Clay	37	50,214	Menard	15	31,344
Clinton	49	45,220	Mercer	24	46,859
Coles	99	152,908	Monroe	8	10,635
Cook	5,807	7,163,521	Montgomery	84	167,688
Crawford	33	53,960	Morgan	90	102,900
Cumberland	50	109,501	Moultrie	30	58,190
DeKalb	96	52,401	Ogle	30	69,182
DeWitt	43	40,357	Peoria	296	235,718
Douglas	42	223,937	Perry	59	44,708
DuPage	53	382,139	Piatt	19	17,737
Edgar	103	163,262	Pike	23	33,780
Edwards .....	...	...	Pope	12	49,701
Effingham	30	35,621	Pulaski	7	6,265
Fayette	63	103,895	Putnam	36	48,681
Ford	41	100,942	Randolph	21	9,868
Franklin	73	170,290	Richland	36	38,916
Fulton	165	169,220	Rock Island	308	642,248
Gallatin	25	29,580	Saline	56	135,814
Greene	38	58,710	Sangamon	484	255,693
Grundy	18	68,279	Schuyler	20	31,827
Hamilton	55	63,744	Scott	4	3,584
Hancock	65	124,930	Shelby	54	84,635
Hardin	5	34,630	Stark	35	192,213
Henderson	11	69,540	St. Clair	553	429,630
Henry	114	129,716	Stephenson	46	45,031
Iroquois	47	80,891	Tazewell	115	159,016
Jackson	107	75,232	Union	35	49,875
Jasper	31	26,849	Vermilion	258	354,358
Jefferson	50	341,581	Wabash	59	68,061
Jersey	8	16,680	Warren	61	77,873
JoDaviess	30	24,762	Washington	23	12,955
Johnson	7	13,635	Wayne	38	31,755
Kane	302	440,323	White	29	44,931
Kankakee	105	255,702	Whiteside	132	209,756
Kendall	14	13,332	Will	213	430,096
Knox	232	225,235	Williamson	136	236,560
Lake	132	485,489	Winnebago	166	250,535
LaSalle	228	232,189	Woodford	19	31,140
Lawrence	40	55,941			
Lee	67	109,047			
				14,214	\$19,537,423

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SIXTH ANNUAL REPORT

OF

The Department of Trade and Commerce

Division of Fire Prevention

July 1, 1922

TO

June 30, 1923

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CLIFFORD IRELAND, Director

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DIVISION OF FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

Annual report for the year July 1, 1922, to June 30, 1923.

In view of a continued increase in the fire loss of the United States, it is gratifying to note that the fire loss in Illinois for the fiscal year just closed showed a slight decrease from that of the preceding fiscal year. This is all the more encouraging, since last year's loss was also lower than that of the previous year.

Losses in Illinois by fiscal years since the inauguration of the Civil Administrative Code have been:

Year.	No. Fires.	Loss.
1917-1918	12,636	\$12,208,060
1918-1919	11,693	13,240,326
1919-1920	14,052	16,552,248
1920-1921	12,327	20,007,135
1921-1922	14,214	19,537,423
1922-1923	15,183	19,449,718

Fire losses in the United States were approximately \$250,000,000 a year five years ago. They have more than doubled and are today running better than \$500,000,000 a year, according to estimates by the National Board of Fire Underwriters. The foregoing table shows that Illinois losses last year were sixty per cent higher than they were in 1917-1918, which is a very creditable showing in comparison with the country at large.

The war developed a very serious fire loss problem. Two factors boosted the fire loss. The first was inflated values. Property lost through fire was, of course, valued on the basis of the new level of high prices and this alone was sufficient to account for the sharp rise in fire losses, if there were no other reason.

The second factor is by far the most serious one. It is incendiarism. When prices broke and unsettled business conditions set in, thousands resorted to incendiarism in order to collect insurance and avoid the losses of a falling market. This wave of incendiarism has existed for the last three years. It has spread like a contagion and has inoculated people in all walks of life.

About the time of the price break, the Fire Marshal warned in public addresses and published statements that a wave of incendiary fires was imminent unless the fire insurance companies set about to reduce their lines of insurance. Insurance had been written at peak values and the drop in prices automatically created overinsurance. It is overinsurance which is the motive for most incendiary fires and almost all "business" fires.

Since that time this office has been calling attention constantly to the evil of overinsurance, because our investigations showed conclusively that overinsurance was the cause of most of the incendiary fires. We

have estimated at times that probably half of the fire loss of the State (the dollars and cents loss, not the number of fires) was incendiary and have placed the blame on overinsurance written by local agents. For this we have been both commended and criticised, but we feel that our position is fully vindicated.

One of the leading insurance companies recently published a chart which has created widespread discussion along this line. This chart has a line showing business failures since 1910 and another line showing the fire loss ratio for the same period. Throughout the entire period the loss ratio has gone up as failures increased and has gone down as failures decreased. Commenting on the showing, the National City Bank in its Bulletin says:

"This showing is startling, for it reveals the shameful fact that incendiarism is an enormous factor in the fire losses of this country. It presents a disgraceful record of fraud and waste in American business life."

In view of the conditions we have had to contend with, we feel that we have made a real showing with a net decrease in losses for the last two years, while those of the country at large are still mounting, and we are especially pleased that the increase in the State's loss has been only sixty per cent, as against 100 per cent for the entire country.

We feel that this record is due in some measure, at least, to the action of the administration in increasing our field force two years ago, enabling us to intensify our work and giving Illinois the largest and, we believe, the best organization of its kind in the United States.

INVESTIGATIONS.

From the foregoing summary of the fire problem, it is apparent that investigation of suspicious fires has been an important part of our work. Ten deputies have been assigned exclusively to investigation work, of whom four cover the city of Chicago. A summary for the year follows:

Number of fires investigated.....	775
Number of investigations closed.....	596
Number of investigations open.....	290
Number of arrests	62
Number of indictments returned.....	59
Number of indictments nolle prossed.....	7
Number of true bills returned.....	18
Number found guilty	18
Number found not guilty.....	11
Number of cases dismissed.....	8

Among the conspicuous results were those secured in a city near Springfield. There had been a series of incendiary fires and the community was thoroughly aroused. After three attempts, a pool room was burned. About the same time a dwelling was set on fire. The department received splendid co-operation from the local authorities on both of these cases, with the result that four were convicted for the pool room fire and one for the dwelling fire. The pool room convictions have been carried to the Supreme Court. There had been various questionable fires in this community before these cases were developed, but since the convictions there has been no trouble along that line. The convictions were all obtained within a week and no doubt inspired fear in the hearts of others who might have been inclined to similar crimes.

"Business" fires have been practically stopped in one of the larger cities of the southern part of the State by effective work of one of our deputies. Prior to his work in that city, questionable fires in business houses were a regular occurrence. Prompt arrests in several cases stopped this.

The deputy carried his investigations to neighboring cities with similar results. In one of these cases two men framed a seemingly perfect alibi to prove their absence from the city at the time of the fire. The deputy smashed this and secured evidence showing that they returned, removed goods and set the fire. All this was kept under cover until the trial of one of the defendants. After three State's witnesses had been heard, the defendant changed his plea to guilty. His partner's case was continued.

One of the most sensational cases in southern Illinois, the burning of a county courthouse, has been further cleared up by the conviction of the former county clerk. Destruction of certain records was the motive for this fire. An accomplice was previously convicted.

A resident of northern Illinois conceived the plan of removing household goods to a warehouse in a neighboring city and then burning the place to collect the insurance. The furniture was removed under cover of night, a little at a time. The fire was a success and so little suspicion was aroused at the time that the insurance was paid. Later a deputy heard some rumors. He located the furniture, arrested the man, secured a confession and a plea of guilty. A brother, who was party to the conspiracy, also confessed and was placed on probation.

It is perhaps more difficult to secure convictions for crimes of burning than for any class of crime. The culprit takes pains to set the fire so that no one will detect him and, if the fire is a success, evidence as to the origin is burned up. In order to establish a case in court, we must first prove conclusively that the origin was incendiary and second that the suspect set it. We may secure an abundance of evidence showing motive for the fire,—such as poor financial condition, overinsurance, hatred, jealousy, threats, etc. We may even have positive evidence of incendiary origin, such as use of oil. But it has become almost impossible to convict unless we can almost show the defendant in the act of touching the match.

In northern Illinois we tried a merchant for setting fire to his store. We had him connected so closely with the fire that the State's attorney told the jury that the only thing lacking was a motion picture showing him in the act of lighting the match. The jury acquitted.

In another case we tried a man who had confessed to a deputy that he had been paid to set fire to a store. The defense attacked the confession on the ground that it had been secured by holding out the expectation of leniency. Nevertheless the defendant took the stand and made a full admission to the jury, even amplifying the confession made to the deputy. Strange to say, the jury acquitted.

One of the handicaps in prosecuting cases of burning to defraud is the attitude of juries towards overinsurance. They seem to feel that if the insurance companies wrote excessive insurance and took the defendant's money for the premium, they ought to pay. Therefore they

refuse to convict. We might as well face facts and this is one of the facts which we find.

It is generally admitted that overinsurance is the major cause of incendiary fires. There is no argument about that. What we have contended is that there is too much overinsurance, that many agents actually encourage overinsurance and that this kind of underwriting is the real cause of incendiary fires. The records of our investigations vindicate these statements. This thing could be largely eliminated if the local agents as a whole would use more care and would write only what they believe is a fair amount of insurance after a personal inspection of the risk. Another evil is the fact that classes of persons are able to secure insurance who are bad risks to start with, such as those who have a record of fires behind them or have been previously on trial for fires.

Hasty settlements and overadjustments by adjusters are contributing evils. A good deal of attention is being given to these matters at present by insurance companies, as many instances have come to light where the companies were cheated by excessive loss adjustments.

Settled, prosperous conditions will do a great deal to stop much of the incendiary waste, for "business" fires are not frequent when business is good, but we are firmly convinced that the real preventative is in the hands of the insurance companies, whose problem is to cure so far as possible the evils of overinsurance, too hasty settlements and overadjustments.

The division has endeavored to stimulate a more effective cooperation from local authorities in detecting crooked fires and securing first hand evidence at the time of the fire. An address by the Fire Marshal at the 1923 meeting of the Illinois Firemen's Association was devoted to this subject.

We have also published a handbook on "Arson and Kindred Crimes," for the especial use of State's attorneys and deputy fire marshals. This book treats the subject from a legal viewpoint, is entirely comprehensive and contains an abundance of court citations, as well as forms for indictment. This book fills a need which has long existed and we believe it is the best work on this subject which has been published.

We have at this time pending a number of important prosecutions which are docketed for trial at the fall terms of court and the evidence warrants convictions in a number of cases. An interesting sidelight to one of these cases are civil suits of \$10,000 each filed against two of our deputies and the State's attorney by the defense. In this case we secured a confession from one of the defendants. The civil suits show the brazenness of this class of people and the extremes to which they will go.

We have investigated several hundred fires where there was not sufficient evidence to warrant action, and many of our cases did not result in convictions. We feel that the moral effect of our work in communities where these investigations were made fully justified the efforts of the division. They have shown the prospective firebugs that a searching investigation was sure to follow a questionable fire. Such

an investigation delays payment of insurance until it is completed, as a rule, and if a man is tried for the offense, the expense of his trial takes the profit from his fire, even though he may be acquitted. We have noted a letting up of suspicious fires in most communities, where thorough investigations have been made.

INSPECTIONS.

A summary of the fire prevention activities is as follows:

Number of inspections made.....	54,682
Number of special and electrical inspections.....	1,856
Number of removals of dilapidated buildings.....	194
Number of prosecutions and fines—	
Under section 9 of the Fire Marshal Law.....	66
Under Gasoline and Volatile Oil Act.....	3
Under Gasoline Red Can Law.....	2
Bond forfeitures	9

With the additional deputies provided two years ago, it has been possible to make our fire prevention activities more thorough and effective. Inspections of property are made throughout the State for the purpose of reducing fire hazards, and orders are issued to correct such hazards where found. It has been possible to inspect almost every city, village and town twice during the year, and in some cases, three times.

The deputies have been instructed to secure personal service of orders wherever possible and to explain carefully to the owner or occupant of the property why the order was issued and why it is in the interest of his protection that it be complied with. This is educational work and has brought results, as rechecking of orders has shown more than seventy per cent compliances.

With a record such as this, a substantial reduction in the fire loss would be expected, under normal conditions. The fact that the loss declined only a few thousand dollars indicates that the incendiary waste must have been extensive.

A share of credit for fire prevention results should be given to fire chiefs about the State. As an example, one chief in a southern city requested copies of all orders issued in his city and within thirty days after the time limit had expired on the orders, he returned them all to the office with the notation, "complied with." We have had other notable examples of this kind of cooperation from the local chiefs.

We have also noted a good deal of earnest cooperation from property owners, who have learned that the division renders a real fire prevention service and are anxious to benefit by the service. A good barometer of the feeling of the general public toward the division is the number of requests received for special inspections throughout the State.

A great step forward would be made if the public could be impressed with the importance of exercising care in the home. The dwelling loss, as usual, was larger than any other, \$4,936,897. Under the section of the report devoted to causes, it appears that defective or overheated chimneys, sparks on roofs, and stoves and furnaces were responsible for a loss of \$3,439,874. This is almost three-fourths of the total dwelling loss and, while fires due to these causes are by no means confined to dwellings, yet they are very common causes of dwell-

ing fires. It would seem that the argument for better chimneys, fire-resistive roofs and safe heating apparatus is clear.

Three other classes of property suffered heavy losses: barns and stables, \$1,710,970; factories, \$2,726,022; stores, \$3,543,846. These, with the dwelling loss, comprised more than half of the State's total fire loss.

A careful study of the causes of fires shows that defective chimneys, exposures, sparks on roofs, spontaneous combustion and stoves and furnaces were responsible for the greatest losses, all but chimneys exceeding a million dollars. These causes are almost entirely preventable except exposure, which results in one building taking fire from another one. If citizens generally would exercise reasonable care, a great deal of the State's fire loss could be prevented in short order.

There is one loss which scarcely needs comment, as it speaks eloquently for itself. No less than 200 persons sacrificed their lives to fire during the year and 386 more were injured. There was no catastrophe during the year which took a large number of lives. This was the toll, week in and week out, throughout the State. Only a few of these casualties occurred in burning buildings. Most of them represent accidents which unfortunately are occurring all the time, due to such things as gasoline, kerosene, matches, candles, bonfires, etc. Except for those which claim little children as victims, most of these accidents are due to carelessness or ignorance. Following is a tabulation of the casualties for the year:

DEATHS.

	Babes and children.		Youths and middle aged.	Aged.
Males.....	108	33	62	13
Females.....	92	33	40	19
	<u>200</u>	<u>66</u>	<u>102</u>	<u>32</u>

INJURIES.

	Babes and children.		Youths and middle aged.	Aged.
Males.....	271	38	226	7
Females.....	115	33	76	6
	<u>386</u>	<u>71</u>	<u>302</u>	<u>13</u>
Total dead and injured.....	586	137	404	45

So far the State has been very fortunate in having no school disasters and the division is doing everything possible to prevent such disasters and to make school buildings of Illinois a safe place for the children. Hundreds of thousands of dollars have been expended by the different school boards for fire escapes, additional exits, fire extinguishing equipment, electric wiring and safe heating apparatus. It is the intention of the division to continue this campaign to bring every school up to standard and keep it there.

A similar campaign has been made among public buildings of the State, especially in the way of enforcing the fire escape statute.

The campaign against old dilapidated buildings and fire-traps has shown satisfactory results, 194 such fire breeders having been removed.

Many of these were located in the hearts of cities and villages, and when removed, reduced the conflagration hazard to a minimum in those cities. The removals also benefited nearby property owners in the way of lower insurance rates. An instance of high rates due to these fire breeders was in a southern city, where two large evaporator buildings for years had been the cause of an insurance rate of \$4.80 on surrounding property. The division finally caused a removal of these buildings and the excessive insurance rate ought to be reduced at once.

In the northern part of the State a deputy ordered the removal of a large dilapidated building in the business section. The owner realized the condition of the building and started to wreck it, when one of the tenants secured an injunction on the grounds that he had a lease for several years on the part he occupied. On final hearing the judge dismissed the injunction except as to the room occupied by this tenant and ordered him to make a proper showing as to the lease. The final result was that the injunction was entirely dissolved. A fine bank and public building now graces this property.

Splendid cooperation has been secured from the different departments under the Civil Administrative Code having charge of public buildings and charitable institutions. Practically all buildings under their jurisdiction have now been equipped except a few for which the Legislature failed to provide funds. One of the large State contracts covers fire escapes on the north and south wings of the State House.

The Legislature also made it possible to provide for fire-resisting roofs on all the buildings at the fair grounds, to rewire several of the buildings and to place the outside overhead wiring in a safe condition. A large number of hazards are thus being removed and the buildings will be placed in a good state of repair by the time the State Fair is to open in September.

Electrical inspections have been carried on in a very successful manner. Eleven cities and towns have been surveyed and carefully rechecked, the result being that the electrical installations in those cities have been replaced with new up-to-date equipment and wiring. In this work we have had very satisfactory cooperation from the Illinois Commerce Commission, the result being that the outside wiring, overhead and pole line construction in those cities have been materially improved.

The enforcing of the gasoline law is one of the largest individual problems of the division. Hundreds of bulk stations and thousands of filling stations are being installed to meet the increased demands. Generally speaking, the oil companies and individuals are showing a good spirit of cooperation. In some few cases it has been necessary to resort to court action, but during the entire year there were only three prosecutions under the gasoline law. There were two prosecutions for violations of the red can law, which in one case caused the death of a mother and child.

As usual it has been necessary to resort to prosecution in some cases to bring about a compliance with orders issued under the Fire Marshal law, the report showing sixty-six such prosecutions. However, before swearing out warrants, every effort is made to bring about a compliance without drastic action.

A few of these cases deserve special mention. In one case in the northern part of the State the owner was not only maintaining a serious fire hazard, but a menace to the whole neighborhood. All efforts failed to bring about the desired result, so the matter was taken to the State's attorney, who immediately started action which resulted in the defendant being fined \$100 and costs. This he refused to pay, but after sojourning a few hours in the county jail, he changed his mind.

Another amusing case in central Illinois deserves mention. A deputy had checked an order twice. This order called for cleaning the premises of all combustible material, such as rubbish, papers, etc. No compliance was shown in either case, so a warrant was issued and the owner brought into court and fined \$10 and costs. At that time it was discovered the defendant was a justice of the peace.

EDUCATIONAL WORK.

Fire Prevention week was observed on a larger scale than heretofore, due to a larger interest being aroused in the various communities. A strong proclamation was issued by the Governor, which was circulated throughout the State. School authorities, mayors and fire chiefs cooperated generously.

Other educational work has been done through the press, division bulletins and by public addresses by the Fire Marshal.

It is regretted that the Legislature made a reduction in the working force of our deputies, but we will do the best we can under the circumstances.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1922, TO JUNE 30, 1923.

Total value of buildings in which fires have occurred.....	\$166,379,677
Total damage to said buildings.....	11,106,455
Total insurance on said buildings.....	105,291,203
Total value of personal property jeopardized by fire.....	58,651,766
Total damage to said personal property.....	8,343,263
Total insurance on said personal property.....	38,393,521
Total fire loss in the entire State of Illinois.....	19,449,718
Total number of fires in the entire State of Illinois.....	15,183

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1922, TO JUNE 30, 1923.

Total value of buildings in which fires have occurred.....	\$55,626,582
Total damage to said buildings.....	8,977,295
Total insurance on said buildings.....	28,625,808
Total value of personal property jeopardized by fire.....	20,673,476
Total damage to said personal property.....	6,117,803
Total insurance on said personal property.....	12,183,456
Total fire loss outside the city of Chicago.....	15,095,098
Total number of fires outside the city of Chicago.....	9,804

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1922, TO JUNE 30, 1923.

Total value of buildings in which fires have occurred.....	\$110,753,095
Total damage to said buildings.....	2,129,160
Total insurance on said buildings.....	76,665,395
Total value of personal property jeopardized by fire.....	37,978,290
Total damage to said personal property.....	2,225,460
Total insurance on said personal property.....	26,210,065
Total fire loss in the city of Chicago.....	4,354,620
Total number of fires in the city of Chicago.....	5,379

DIVISION OF FIRE PREVENTION.

11

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1922, TO JUNE 30, 1923.

Month. 1922.	Number of fires.	Fire Loss.	Month. 1923.	Number of fires.	Fire Loss.
July	1,134	\$1,471,059	January	1,544	\$1,705,633
August	960	1,002,607	February	1,807	2,517,900
September	841	1,018,305	March	1,664	2,633,898
October	1,101	1,307,080	April	1,446	1,304,387
November	1,128	1,633,761	May	1,137	1,515,748
December	1,678	2,156,203	June	743	1,183,137
				15,183	\$19,449,718

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1922, TO JUNE 30, 1923.

Month. 1922.	Number of fires.	Fire Loss.	Month. 1923.	Number of fires.	Fire Loss.
July	693	\$1,084,749	January	962	\$1,335,368
August	610	848,437	February	1,242	2,133,645
September	581	820,960	March	1,184	2,083,713
October	619	969,505	April	989	1,022,562
November	763	990,416	May	697	1,134,368
December	1,090	1,642,168	June	374	1,029,207
				9,804	\$15,095,098

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1922, TO JUNE 30, 1923.

Month. 1922.	Number of fires.	Fire Loss.	Month. 1923.	Number of fires.	Fire Loss.
July	441	\$386,310	January	582	\$370,265
August	350	154,170	February	565	384,255
September	260	197,345	March	480	550,185
October	482	337,575	April	457	281,825
November	365	643,345	May	440	331,380
December	588	514,035	June	369	153,930
				5,379	\$4,354,620

CLASSIFICATION OF THE FIRE LOSS ACCORDING TO CAUSES, GIVING THE NUMBER OF FIRES AND THE LOSS FROM EACH CAUSE, FROM JULY 1, 1922, TO JUNE 30, 1923.

	Cause.	No.	Damage.
1.	Chimneys, flues, cupolas and stacks, overheated or defective	926	\$ 839,334
2.	Conflagrations	29	17,295
3.	Electricity (except electric irons and similar small devices)	710	840,284
4.	Explosions	348	384,664
5.	Exposure	804	1,015,693
6.	Fireworks, fire crackers, balloons, etc.	89	92,973
7.	Friction, sparks occasioned by running machinery	26	61,780
8.	Gas—Natural and artificial	155	63,242
9.	Hot ashes and coals, open fires	304	275,780
10.	Hot grease, oil, tar, wax, asphalt, (ignition of)	100	314,618
11.	Hot irons, including electric devices	114	27,713
12.	Incendiarism	216	404,856
13.	Lightning—buildings rodged	2	11,849
14.	Lightning—buildings not rodged	254	566,640
15.	Matches, smoking	1,628	533,330
16.	Miscellaneous—Cause known, but not classified (for unknown see No. 27)	59	47,188
18.	Open lights	303	418,633
19.	Petroleum and its products	460	297,793
20.	Rubbish and litter	579	284,275
22.	Sparks—Arising from combustion (other than 23)	282	571,537
23.	Sparks—On roofs	3,781	1,162,291
24.	Spontaneous combustion	476	1,046,145
25.	Steam and hot water pipes	58	26,065
26.	Stoves, furnaces, boilers and their pipes	956	1,438,249
27.	Unknown	2,348	7,848,836
28.	Unknown origin, but investigation important	176	858,655
		15,183	\$19,499,718

CLASSIFICATION OF THE FIRE LOSS ACCORDING TO PROPERTY DESTROYED, GIVING THE NUMBER OF FIRES AND THE LOSS IN EACH CLASS OF PROPERTY, FROM JULY 1, 1922, TO JUNE 30, 1923.

Class of property.		No.	Damage.
1.	Apartment houses, flats and rooming houses.....	1,528	\$ 463,081
2.	Ampitheaters, grand stands, etc.....	3	1,820
3.	Bakeries	52	87,281
4.	Barber shops	24	24,144
5.	Barns and stables (not liveryes).....	999	1,710,970
6.	Churches	64	229,125
7.	Depots, stations, waiting rooms, etc.....	27	129,725
8.	Dry cleaning establishments.....	31	18,955
9.	Dry houses, kilns, rooms, etc.....	3	10,098
10.	Dwellings	7,128	4,936,897
11.	Elevators and grain warehouses.....	23	660,280
12.	Factories	480	2,726,022
13.	Foundries	34	149,830
14.	Garages	495	636,471
15.	Granaries	66	81,501
16.	Green Houses	3	2,610
17.	Halls, (lodge) (club) (dance) (public) etc.....	74	264,411
18.	Hotels and boarding houses.....	74	71,932
19.	Hospitals	7	6,780
20.	Ice houses	12	32,335
21.	Jails	1	400
22.	Laundries	26	15,072
23.	Liveries	1	800
24.	Mills (flour)	8	187,710
25.	Mills (saw and planing).....	15	20,415
26.	Office buildings	102	240,786
27.	Oil houses	8	1,210
28.	Photo studios	2	320
29.	Power houses, pump houses and engine houses.....	35	97,150
30.	Restaurants	89	65,742
31.	Saloons	20	11,235
32.	Sheds	828	331,095
33.	Smoke houses	43	14,242
34.	Silos	10	3,868
35.	Stores	1,320	3,543,846
36.	Shops, (carpenter, blacksmith, etc.).....	211	612,451
37.	Schools, (colleges, seminaries, etc.).....	73	208,804
38.	Theatres and motion picture houses.....	19	70,550
39.	Warehouses	119	836,656
40.	Miscellaneous	113	320,299
FIRES OTHER THAN BUILDINGS.			
1.	Automobiles	689	84,637
2.	Boats	7	6,400
3.	Bridges	11	4,865
4.	Cars, (railway) (electric) etc.....	117	51,692
5.	Docks, (coal) etc.....	3	150
6.	Fences	37	783
7.	Grain and hay.....	96	26,523
8.	Junk yards	9	22,820
9.	Lumber yards	18	32,190
10.	Tanks (water), etc.....	5	39,959
11.	Tents	1	500
12.	Threshing outfits	4	1,655
13.	Trestles	1	100
14.	Wagons	13	525
15.	Hangar	1	250,000
16.	Refinery	1	100,000
		15,183	\$19,499,718

CLASSIFICATION OF THE FIRE LOSS ACCORDING TO COUNTIES, SHOWING THE NUMBER OF FIRES AND THE LOSS FOR EACH COUNTY, FROM JULY 1, 1922, TO JUNE 30, 1923.

County.	No.	Damage.	County.	No.	Damage.
Adams	186	\$ 130,532	Livingston	114	\$ 420,202
Alexander	87	49,386	Logan	64	30,938
Bond	17	14,405	Macon	153	289,697
Boone	23	41,613	Macoupin	92	127,925
Brown	21	32,671	Madison	325	568,464
Bureau	101	181,904	Marion	66	90,176
Calhoun	1	3,800	Marshall	16	30,165
Carroll	42	32,430	Mason	18	37,848
Cass	45	23,828	Massac	40	230,120
Champaign	267	230,163	McDonough	75	86,347
Christian	79	122,192	McHenry	60	143,874
Clark	76	136,362	McLean	223	322,664
Clay	22	54,389	Menard	35	45,584
Clinton	44	53,875	Mercer	24	61,766
Coles	137	235,422	Monroe	7	13,529
Cook	6,224	6,377,685	Montgomery	70	250,776
Crawford	39	109,650	Morgan	105	228,881
Cumberland	31	127,774	Moultrie	18	27,298
DeKalb	86	107,558	Ogle	48	112,616
DeWitt	28	58,475	Peoria	340	446,340
Douglas	28	119,532	Perry	68	85,385
DuPage	58	210,033	Piatt	25	24,873
Edgar	96	194,979	Pike	30	67,833
Edwards	13	6,790	Pope	4	7,610
Effingham	22	17,393	Pulaski	9	4,405
Fayette	42	80,805	Putnam	19	44,397
Ford	47	61,067	Randolph	30	23,984
Franklin	79	112,797	Richland	46	33,478
Fulton	155	143,101	Rock Island	387	438,498
Gallatin	7	7,150	Saline	94	122,689
Greene	35	41,708	Sangamon	502	651,169
Grundy	17	47,865	Schuyler	11	29,780
Hamilton	18	17,721	Scott	8	3,152
Hancock	58	128,267	Shelby	73	85,975
Hardin	1	2,000	Stark	26	41,670
Henderson	10	27,770	St. Clair	638	524,520
Henry	106	77,730	Stephenson	39	50,972
Iroquois	68	106,035	Tazewell	125	218,979
Jackson	118	110,843	Union	51	66,015
Jasper	23	23,745	Vermilion	229	377,588
Jefferson	72	136,157	Wabash	42	70,822
Jersey	13	20,043	Warren	86	46,996
JoDaviess	49	42,581	Washington	9	9,400
Johnson	5	7,775	Wayne	42	38,472
Kane	298	521,279	White	56	77,803
Kankakee	102	52,006	Whiteside	184	199,817
Kendall	17	49,665	Will	280	533,431
Knox	244	185,969	Williamson	200	381,294
Lake	120	141,486	Winnebago	126	170,343
LaSalle	251	397,670	Woodford	33	43,804
Lawrence	32	124,569			
Lee	58	68,709			
				15,183	\$19,449,718

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SEVENTH ANNUAL REPORT

OF

The Department of Trade and Commerce

Division of Fire Prevention

July 1, 1923
TO
June 30, 1924

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CLIFFORD IRELAND, Director

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DIVISION OF FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

Illinois fire losses for the fiscal year July 1, 1923, to June 30, 1924, as reported to the division by the designated local officials, totaled \$20,928,518. The number of fires reported was 14,074.

Annual losses in Illinois by fiscal years since the inauguration of the Civil Administrative Code have been:

Year.	Number fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	15,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518

The average annual loss by fire in the United States for the last ten years has been \$250,000,000, but in the last two years it has exceeded \$500,000,000. In view of this, the Illinois loss record is quite favorable. I believe that the fire prevention work of the division must be credited to a considerable extent in holding down losses in this State.

Perhaps no waste of resources in this nation is more unnecessary and more inexcusable than the fire waste. Study of causes of fire for many years has shown absolutely that 75 to 90 per cent of all fires are strictly preventable. Carelessness and indifference lie at the bottom of our great fire waste. A perusal of the causes which resulted in our greatest losses in the year covered by this report will show this.

LEADING CAUSES OF FIRES.

Spontaneous combustion—This caused a loss of \$1,532,871. There are certain materials which are well known to be subject to spontaneous combustion and if these were properly handled and stored they would cause little trouble. Oily rags, oil mops and the like are very dangerous in this way and should be kept in metal cans, with metal covers. Oily clothing of workmen should be kept in ventilated, metal lockers. Oily rags, thrown carelessly about, are a serious hazard in garages. A very great many fires from spontaneous combustion have their origin in rubbish conditions.

Electricity—The loss from this cause exclusive of electric irons and similar small devices, was \$1,305,847. Electricity, when properly installed, is one of the safest of modern conveniences. It has ample safeguards thrown around it, but it is not fool-proof. An electric circuit is intended to carry a certain load safely. The fuse is placed in

the fuse-box as the safety device. It is intended to blow out in case the circuit is overloaded from any cause. When people promiscuously add new outlets or lights to a circuit, they are very likely to overload it. When the fuse blows out, it is common practice to replace it with one of higher rating or to place a penny back of it. It is not uncommon practice to use nails and pieces of wire for makeshift fuses. These things do away with the annoyance of fuses blowing out, but they also remove the safety valve. An overloaded circuit heats. The heating breaks down the insulation and finally the hot wire is likely to come in contact with a joist or other inflammable material. Amateur installation of electricity and tampering with the installation and fuses is no doubt responsible for a large part of the fire loss due to electricity.

Hot irons, including electric devices—Curiously enough, this cause followed right on the heels of electricity. The loss was \$1,269,960. Carelessness is almost entirely the controlling factor. An electric iron is set down while the housewife answers the doorbell or telephone. The current is not turned off. Fire naturally follows. Hundreds of fires are on record from this cause and at least one notable conflagration resulted. Another serious menace is the attaching of electric appliances to the lamp sockets. This is especially true of heating appliances, which carry a heavy wattage. It is easy to overload circuits in this way.

Friction, sparks occasioned by running machinery—This cause ranked fourth and took a toll of \$1,104,842. It can be controlled largely by giving proper attention to installation, to safety devices and to supervision.

Sparks on roofs—This caused the largest number of fires, 2,963, which is 21 per cent of the total number from all causes. In other words, one fire in five was due to this cause. The loss was \$956,297. The majority of these fires occur at dwellings. This cause can be controlled by the use of fire resistive shingles. Wooden shingles are conflagration breeders because burning shingles are carried to other wooden shingle roofs. They have done this in many notable conflagrations.

A tabulation of all fire causes appears at the end of this report and attention is directed thereto.

INSPECTION WORK OF DIVISION.

It is the purpose of the division, through its force of inspectors, to eliminate fire hazards in property throughout the State. Necessarily our attention must be devoted almost entirely to business and manufacturing property, school buildings, hotels, hospitals, theaters and public buildings. Our inspectors are routed to visit the various cities or towns at intervals throughout the year.

The duty of the inspector is to go over each property carefully and order that fire hazards or defects be corrected within a stated period. The orders are checked at the end of such period as to compliance. The law provides for a fine in case of non-compliance. It also gives the property owner or occupant the right of appeal to the Director of the Department and later to the County Court. The policy of the Division is to be reasonable but firm. We resort to prosecutions only as a last resort. We believe our duty is to render a service by convincing a

citizen that it is to his interest to make his property safe and keep it so. By this policy we have educated many communities along this line and it is not unusual for deputies to report whole communities in A-1 shape from a fire hazard viewpoint. Some citizens who at the outset have opposed our orders most strenuously have become the loudest boosters for fire prevention after complying.

Special attention is given to schools, because we feel that the children should have every practical protection thrown about them. Fortunately we have had no school-house catastrophe in Illinois. We have a great many dangerous school buildings in the State, relics of former days when standards of construction were not given as much thought as today. We are enforcing the fire escape statute wherever a school building is found not properly equipped and we require blue-prints of construction details to be submitted for approval before construction begins, so that when completed the escape will be in conformity with our requirements. We also require panic-bolts on all exit doors.

The Division also enforces the fire escape statute on public halls, hotels and other classes of buildings required to have fire escapes.

Theaters are given particular attention, both as to fire hazards and exit facilities.

One of the most serious hazards of the present day is the garage hazard. Comparatively few garages are built fireproof. Many of them are in various sorts of frame buildings. Every conceivable sort of building has been pressed into use to meet the pressing needs of garages and automobile repair shops. The wooden floors become oil soaked. The presence of gasoline creates a volatile gas which, when mixed with air in the proper proportion, will ignite from the tiniest spark. It may be a cigarette butt, the exhaust of a running motor or a spark from turning the key in an electric light socket. When gasoline gas is ignited, a sheet of flame envelopes the entire building at once and often is accompanied by an explosion. The Division is issuing orders uniformly on garages to provide proper ventilation to remove the gasoline gas and to safeguard heating equipment so that none of the gas may reach the live coals through the grate. The gas is heavier than air and hence is present at the floor line and just above. Ventilation which will lift it out of the building must therefore be provided. This is accomplished by extending ducts upward along the side walls from the vicinity of the floor line. Sometimes sufficient draft to lift the gas can be obtained by extending the ducts through and above the roof, the principle being the same as that of a chimney or flue. Except in small garages, however, it is usually necessary to connect the ducts into a header and install a fan to provide forced ventilation.

The Division suggests that garage proprietors submit sketches of their garages so that we may work out the most practical and cheapest plan of ventilation and heating arrangement. Heating plants or stoves are usually safeguarded by an air-tight, fireproof enclosure, or by elevating the plant above the floor sufficiently to be out of range of the gasoline gas.

GASOLINE AND VOLATILE OILS.

Storage, sale, handling and use of gasoline and volatile oils has become one of the major problems of our work. The automobile industry continues to develop on an unprecedented scale. Each new paved highway opens new locations for bulk storage stations and filling stations. Illinois was one of the first States to realize that ample regulations must be made to safeguard the public from the very great hazards of gasoline and volatile oils. By recommendation of the Department, the Legislature in 1919 enacted a law which gives this Department power to regulate the keeping, storage, transportation, sale or use of gasoline and volatile oils. Regulations were promptly adopted by the Department, covering all of the volatile oils. These apply throughout the State except in cities or villages which have regulatory ordinances on the subject. The law gives home rule to cities and villages, if they care to exercise it.

The Department requires blue prints to be submitted of all proposed bulk stations and approval is given only when all requirements have been met. We have adopted the rules of the Bureau of Explosives of the American Railway Association as to clearances from railroad tracks and are receiving efficient cooperation from the inspectors of the Bureau in enforcing them. The oil industry as a whole has shown a real spirit of cooperation.

Copies of our rules on this subject have been requested from all parts of the United States and from abroad.

Oil burning equipment is one of the newest hazards in the development of the oil business. A large number of oil burners, suitable for use in all kinds of heating plants, have been placed on the market in the last few years and hundreds are being sold. The Department foresaw this, also, and one portion of the oil rules is devoted to this subject. Oil heating equipment takes the hazard of oil directly into the homes, but the danger is slight if approved equipment is installed and the proper grade of oil used. We realize that a great deal of unapproved equipment is being installed by unsuspecting citizens and that excessive storage of oil is being placed in many basements. Many citizens are using grades of oil which the burner was not designed to burn, because they are cheaper. Salesmen in some instances are deliberately encouraging this and in some cases have suggested that crank case oil be used, although it is largely diluted with gasoline.

There is great need for cities and villages to recognize the peril of the situation. Every city and village should require permits to be taken out for each installation and should not allow it to be used until a final inspection has shown it in full compliance with regulations.

COOPERATION OF CITIES AND VILLAGES.

One of the constant aims of the Division has been to encourage cities and villages to take practical control of fire prevention. The ordinances in many cities and villages are woefully weak and out of date. Many have no ordinances worthy of the name. In only a relatively small number is there a real inspection system to control fire hazards. The result is that fire hazards have largely been left to take care of themselves.

Every city and village should have adequate ordinances on building construction, electric wiring, theaters, garages, dry cleaning plants, oil storage, filling stations, furnace installation, oil burning equipment and other hazards. The ordinances should be backed up with an efficient inspection system and should be rigidly enforced. The fire loss of the State and Nation cannot be permanently reduced until the communities make it their business to reduce their losses. The Division has always stood ready to help the communities of this State to draft the proper kind of ordinances.

SUMMARY OF INSPECTION WORK.

The number of inspections made during the year was 34,194. In addition, 720 special inspections were made, resulting from requests or complaints to the office regarding specific matters. We succeeded in having removed 119 dilapidated buildings, which were of little or no value themselves, but a constant menace to the communities in which they stood. It was necessary to prosecute in but eight cases, five of which were under the statute on gasoline and volatile oils.

INVESTIGATION OF SUSPICIOUS FIRES.

A second branch of the work of the Division is the investigation of fires of suspected incendiary origin. A summary of the investigation work is as follows:

Number of investigations open July 1, 1923.....	290
Number of new investigations assigned.....	553
Investigations closed	547
Cases open for further investigation July 1, 1924.....	301
Arrests	42
Indictments returned	32
No true bills returned.....	17
Found guilty	16
Found not guilty.....	10
Cases dismissed	7
Indictments nolle prossed.....	3
Indictments stricken with leave to reinstate.....	3

Several of our men are trained investigators, who do nothing but investigate fires. The great majority of incendiary fires are set for the purpose of collecting insurance. Some are caused by pyromaniacs or malicious persons. Others are set for revenge. There are some which are the result of motives of various sorts.

We had one case where a woman was so discontented with her home on the farm that she became melancholy. In a desperate moment she set fire to the house in order to force her husband to move. She made a clean breast of it and was placed on probation.

Three malicious boys, who were always committing petty crimes, set fire to an elevator out of pure deviltry, causing a great loss to the owner and the community. One of our investigators rounded them up and secured confessions which caused them to be adjudged delinquent and committed to the proper institutions.

In one case, a merry-go-round proved to be a poor investment and the owners hired a man to set fire to it. The Division cleared up the case, but all of the guilty have not yet been brought to justice.

One of the worst incendiary fires of the year occurred in Chicago. Nine firemen lost their lives when a wall fell. The stock and fixtures were worth about \$5,000, but the proprietors had them covered with \$32,000. Most of the insurance was taken out shortly before the fire.

These individuals were known to the insurance companies and were listed as undesirable risks. The insurance agent knew this and knew that fire insurance in excess of a small amount would be cancelled by the companies. He made a proposition to the proprietors of this place, according to the evidence we secured, that he would write the extra fire insurance if they would give him their life and liability insurance. He figured that he would not report the fire insurance policies to the companies until he had collected the premiums on the life and liability policies, as he was certain that the fire policies would be ordered cancelled. At least it appeared that way from the information disclosed by the investigation.

The companies did order the fire policies cancelled, but instead of serving a cancellation notice in the formal and required way, this agent made a request for the policies. The proprietors made excuses. A second request was made. Again more excuses. Then the fire.

This case illustrates two important points in the arson situation. He who sets a fire for gain thinks not and cares not for the fact that the fire may take human lives. He is the most despicable kind of criminal. Second, the ease with which over-insurance may be obtained is the greatest cause of incendiary fires. A crooked insurance agent is as despicable as the firebug with whom he deals.

THE EVIL OF OVER-INSURANCE.

Not all agents who write over-insurance are crooked. Perhaps only a relatively small percentage are dishonest. But over-insurance is one of the greatest evils we have to contend with in trying to reduce fire losses. It is common practice to write all the insurance a man asks for. He can then go to other agents and secure additional policies. An inspection of the property is rarely made to determine whether he really has the value he is claiming.

I personally believe it is hopeless to expect any real reduction in the fire loss of the United States so long as this situation holds. Over-insurance not only is the cause of crooked fires; over-insurance also makes the average person careless about the hazards in his own property, as he is likely to feel that he cannot possibly lose if he should have a fire. Insurance never was intended to lift the responsibility entirely from the shoulders of the individual. It was intended to reimburse honest persons for honest losses and not to make losses profitable.

I believe every risk should be inspected by the agent before he writes the policy. I believe that every policy should carry a provision making the written consent of the agent necessary before additional insurance could be taken out.

I believe that the fire loss could be cut in half if over-insurance could be eliminated.

The crimes of arson and burning to defraud the insurance companies are difficult to prove. While it may be easy to establish that the fire was incendiary, and while the motive for the fire may be apparent, it is usually difficult to produce actual evidence to prove that the suspect touched off the fire or hired it done. Firebugs do their work under cover and unusually take care that they will not be seen.

The division must rely on State's Attorneys in the various counties to prosecute cases. We are indebted to some State's Attorneys for vigorous and courageous prosecutions.

STARCH DUST EXPLOSION DISASTER.

The worst disaster of the year occurred January 3, 1924, at the Pekin plant of the Corn Products Refining Company. It was one of the most disastrous starch dust explosions on record in the United States. The explosion occurred at 3.25 a. m. Forty-two men died. The property loss was \$750,000.

It was 12 degrees below zero at the time of the explosion. Extreme temperatures continued for several days and the official thermometer reading January 5 was 23 degrees below zero. This made the work of removing debris and bodies difficult and increased the suffering of anxious relatives of the victims.

A careful investigation was made personally by myself, in co-operation with experts from the Federal Department of Agriculture. We traced the cause of the explosion definitely to a burned out bearing, which furnished the spark necessary to touch off the dust.

Another serious disaster occurred at Hillsboro, where a man, wife and three children were burned to death in a kerosene explosion. The husbands arose and poured kerosene into the stove preparatory to starting the fire. There were no doubt some smouldering coals in the stove. A sheet of flame enveloped the whole house. The wife and children were burned to a crisp in an adjoining bedroom.

An investigation disclosed that the kerosene at the store where this kerosene was purchased had a flash point of 86 degrees, Fahrenheit, considerably lower than that for kerosene. Apparently a mistake had been made at some time in filling the store keeper's tank whereby some gasoline had gotten into it.

This illustrates the great danger in using kerosene to start or hurry fires. It also illustrates the importance of oil dealers taking every reasonable care to see that mistakes shall not be made in handling gasoline and kerosene.

DEATH ROLL FOR THE YEAR.

Following is a summary showing the deaths and injuries from fire during the year:

Sex.	Babes.	Children.	Youths and middle aged.	Aged people.
DEATHS.				
Males.....	146	16	125	5
Females.....	86	32	41	13
Total.....	232	48	166	18
INJURIES.				
Males.....	175	22	151	2
Females.....	83	24	55	4
Total.....	258	46	206	6
Total dead and injured.....	490	94	372	24

This is the worst feature of our fire loss. Property may be restored, but human lives and permanent injuries, never. Like the property loss, most of these deaths and injuries were due to someone's carelessness or thoughtlessness and could have been avoided.

HANDLING OF FIREWORKS.

A sample of torpedoes seized in Cook County was tested in the chemical laboratory of the Bureau of Explosives, American Railway Association. This report was made:

"If the average explosive content of these torpedoes (as shown by sample No. 2) be equal to this torpedo, they would be classed as a forbidden explosive."

Yet these torpedoes were being sold promiscuously, to children as well as adults.

The University of Wisconsin analyzed several kinds of fireworks as to poisons with the following results:

Barrel Snake—Enough mercuric sulpho-cyanate to kill 10 adults.

Indian Snake—Enough of same to kill one adult.

Son of a Gun—Enough yellow phosphorous to kill five adults.

Children, especially smaller ones, are likely to place fireworks in their mouths. Yet these are sold promiscuously to children.

Added to these dangers are the ordinary hazards to life, limb and property inherent in fireworks. The only specific statutory reference to fireworks is in the cities and villages act. It gives cities and villages the power to regulate, restrict or prohibit sale or use of fireworks. The only general statute which might apply is that on the subject of explosives, which prohibits the storing or keeping of explosives within 300 yards of an inhabited dwelling, except where provided otherwise by city ordinance. All the Division has in the way of authority to control fireworks is found in that statute and in the general provisions of the Fire Marshal Law. I am an advocate of a law prohibiting the sale and use of fireworks throughout the State, except in connection with public celebrations in the hands of experts. If this cannot be obtained, a law should be passed which would give the department some definite authority to regulate the keeping, storage, handling, sale and use of fireworks.

EDUCATIONAL WORK OF DIVISION.

The importance of educating the public to the necessity of preventing fires is always stressed. We concentrate on this during Fire Prevention Week, which is the week in which falls October 9, the anniversary of the Chicago fire. Forty thousand copies of the Governor's Fire Prevention Week proclamation were sent out this year, together with press bulletins, letters and other literature. We aimed to reach every hamlet in the State and every school. The observance was general and successful.

Throughout the year educational matter is distributed through the press and by pamphlet and circular. The office also supplies placards and warning signs of various sorts.

In addition, the Fire Marshal is called on constantly for addresses before civic bodies, such as Rotary Clubs and Chambers of Commerce, and every such request is complied with if possible.

I believe we have awakened a practical interest in fire prevention among the communities of this State and it is our purpose to take full advantage of it by redoubling our efforts.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1923, TO JUNE 30, 1924.

Total value of buildings in which fires have occurred.....	\$197,344,780
Total damage to said buildings.....	11,604,248
Total insurance on said buildings.....	127,742,905
Total value of personal property jeopardized by fire.....	73,118,271
Total damage to said personal property.....	9,324,270
Total insurance on said personal property.....	52,669,855
Total fire loss in the entire State of Illinois.....	20,928,518
Total number of fires in the entire State of Illinois.....	14,074

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1923, TO JUNE 30, 1924.

Total value of buildings in which fires have occurred.....	\$135,062,413
Total damage to said buildings.....	2,458,545
Total insurance on said buildings.....	92,818,480
Total value of personal property jeopardized by fire.....	49,396,250
Total damage to said personal property.....	2,639,755
Total insurance on said personal property.....	38,817,140
Total fire loss in the City of Chicago.....	5,098,300
Total number of fires in the City of Chicago.....	5,613

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1923, TO JUNE 30, 1924.

Total value of buildings in which fires have occurred.....	\$62,282,367
Total damage to said buildings.....	9,145,703
Total insurance on said buildings.....	34,924,425
Total value of personal property jeopardized by fire.....	23,722,021
Total damage to said personal property.....	6,684,515
Total insurance on said personal property.....	13,852,715
Total fire loss outside the City of Chicago.....	15,830,218
Total number of fires outside the City of Chicago.....	8,461

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1923, TO JUNE 30, 1924.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1923.			1924.		
July.....	763	\$1,147,270	January.....	2,349	\$4,462,332
August.....	785	1,408,487	February.....	1,589	2,848,320
September.....	568	667,683	March.....	1,632	2,504,863
October.....	970	1,158,428	April.....	1,418	2,009,722
November.....	1,084	1,156,807	May.....	1,203	1,160,319
December.....	867	915,259	June.....	846	1,489,028
Total.....				14,074	\$20,928,518

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1923, TO JUNE 30, 1924.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1923.			1924.		
July.....	296	\$279,040	January.....	1,136	\$995,285
August.....	252	252,900	February.....	635	671,105
September.....	195	128,910	March.....	639	713,775
October.....	345	293,575	April.....	570	501,220
November.....	328	225,530	May.....	527	297,135
December.....	272	200,375	June.....	418	539,450
Total.....				5,613	\$5,098,300

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1923, TO JUNE 30, 1924.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1923.			1924.		
July.....	467	\$ 863,230	January.....	1,213	\$3,467,047
August.....	533	1,155,587	February.....	954	2,177,215
September.....	373	538,773	March.....	993	1,781,088
October.....	625	864,853	April.....	848	1,508,502
November.....	756	931,277	May.....	676	863,184
December.....	595	714,894	June.....	428	949,578
Total.....				8,461	\$15,830,218

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY 1, 1923, TO JUNE 30, 1924.

Cause.	No.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	923	\$ 809,750
Conflagrations.....	1	3,000
Electricity (except electric irons and similar small devices).....	896	1,305,847
Explosions.....	477	664,969
Exposure.....	506	715,800
Fireworks, fire crackers, balloons, etc.....	26	37,517
Friction, sparks occasioned by running machinery.....	42	1,104,842
Gas—natural and artificial.....	188	94,417
Hot ashes and coals, open fires.....	249	80,455
Hot grease, oil, tar, wax, asphalt (ignition of).....	96	96,232
Hot irons, including electric devices.....	119	1,269,960
Incendiarism.....	170	318,457
Lightning—buildings rodde.....	3	2,625
Lightning—buildings not rodde.....	367	722,985
Matches, smoking.....	1,600	463,919
Miscellaneous—cause known, but not classified (for unknown, see below).....	129	173,799
Open lights.....	328	103,292
Petroleum and its products.....	553	392,195
Rubbish and litter.....	339	112,496
Sparks—arising from combustion (other than on roofs).....	252	445,664
Sparks—on roofs.....	2,963	956,297
Spontaneous combustion.....	503	1,532,871
Steam and hot water pipes.....	50	8,755
Stoves, furnaces, boilers and their pipes.....	1,178	870,258
Unknown.....	1,985	8,560,871
Unknown origin, but investigation important.....	131	1,224,245
Total.....	14,074	\$20,928,518

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1923, TO JUNE 30, 1924.

Class of property.	No.	Damage.
Apartment houses, flats and rooming houses.....	1,664	\$ 467,801
Amphitheaters, grand stands, etc.....	2	6,050
Bakeries.....	47	42,023
Barber shops.....	31	15,282
Barns and stables (not liveryes).....	756	1,509,744
Churches.....	63	215,532
Depots, stations, waiting rooms, etc.....	38	10,032
Dry cleaning establishments.....	39	39,360
Dry houses, kilns, rooms, etc.....	3	5,300
Dwellings.....	6,230	4,354,949
Elevators and grain warehouses.....	21	313,874
Factories.....	424	3,104,321
Foundries.....	31	233,568
Garages.....	558	953,423
Granaries.....	48	52,784
Green houses.....	1	200
Halls (lodge, club, dance, public), etc.....	62	266,361
Hotels and boarding houses.....	90	168,107
Hospitals.....	13	59,570
Ice houses.....	11	131,350
Jails.....	2	1,010
Laundries.....	32	125,352
Liveryes.....	1	150
Mills (flour).....	8	49,007
Mills (saw and planing).....	6	14,525
Office buildings.....	119	93,402
Oil houses.....	3	220
Photo studios.....	6	8,710
Power houses, pump houses and engine houses.....	32	162,780
Restaurants.....	132	157,461
Saloons.....	15	12,717
Sheds.....	569	118,238
Smoke houses.....	30	13,452
Silos.....	13	4,150
Stores.....	1,228	3,936,987
Shops (carpenter, blacksmith, etc.).....	209	1,403,287
Schools (colleges, seminaries, etc.).....	77	388,052
Theatres and motion pictures houses.....	21	47,567
Warehouses.....	128	1,077,300
Miscellaneous.....	135	738,550
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	875	110,342
Boats.....	8	14,410
Bridges.....	4	1,510
Cars (railway, electric), etc.....	128	228,699
Docks (coal), etc.....	5	335
Fences.....	9	78
Grain and hay.....	71	66,453
Junk yards.....	23	52,274
Lumber yards.....	15	109,660
Tanks (water), etc.....	7	40,704
Tents.....	2	300
Wagons.....	29	1,205
Total.....	14,074	\$20,928,518

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS JULY 1, 1923, TO JUNE 30, 1924.

County.	No.	Damage.	County.	No.	Damage.
Adams.....	185	\$ 172,725	Livingston.....	81	117,877
Alexander.....	78	57,280	Logan.....	52	24,725
Bond.....	31	83,566	Macon.....	130	1,269,251
Boone.....	22	50,559	Macoupin.....	124	313,487
Brown.....	8	14,722	Madison.....	280	484,204
Bureau.....	77	103,578	Marion.....	82	143,446
Calhoun.....			Marshall.....	9	26,140
Carroll.....	52	42,715	Mason.....	10	32,211
Cass.....	37	18,440	Massac.....	32	77,032
Champaign.....	266	204,910	McDonough.....	48	81,600
Christian.....	73	75,145	McHenry.....	33	138,992
Clark.....	27	60,627	McLean.....	174	190,973
Clay.....	13	9,990	Menard.....	19	109,052
Clinton.....	21	37,120	Mercer.....	18	56,750
Coles.....	127	216,656	Monroe.....	3	5,950
Cook.....	6,282	6,441,663	Montgomery.....	90	183,389
Crawford.....	34	40,754	Morgan.....	107	290,690
Cumberland.....	23	42,680	Moultrie.....	24	69,585
DeKalb.....	73	57,212	Ogle.....	26	72,667
DeWitt.....	75	50,733	Peoria.....	409	533,841
Douglas.....	29	45,605	Perry.....	55	74,225
DuPage.....	56	82,264	Piatt.....	39	85,641
Edgar.....	92	132,228	Pike.....	46	65,784
Edwardsville.....	8	6,233	Pope.....		
Effingham.....	21	15,445	Pulaski.....	5	2,840
Fayette.....	27	63,325	Putnam.....	13	23,705
Ford.....	27	25,992	Randolph.....	21	37,025
Franklin.....	93	228,149	Richland.....	28	35,685
Fulton.....	128	160,964	Rock Island.....	284	401,469
Gallatin.....	23	34,990	Saline.....	97	358,895
Greene.....	30	75,638	Sangamon.....	423	849,628
Grundy.....	13	120,295	Schuyler.....	22	155,149
Hamilton.....	20	13,331	Scott.....	3	2,692
Hancock.....	60	112,644	Shelby.....	55	78,162
Hardin.....	2	170	Stark.....	30	46,371
Henderson.....	8	27,860	St. Clair.....	479	430,149
Henry.....	89	76,388	Stephenson.....	24	41,168
Iroquois.....	79	71,012	Tazewell.....	52	1,063,820
Jackson.....	151	70,084	Union.....	28	31,154
Jasper.....	27	25,975	Vermilion.....	208	281,938
Jefferson.....	115	67,998	Wabash.....	38	15,071
Jersey.....	13	20,344	Warren.....	54	81,187
Jo Daviess.....	35	37,922	Washington.....	14	20,545
Johnson.....	3	4,850	Wayne.....	15	19,290
Kane.....	236	489,083	White.....	50	93,940
Kankakee.....	103	98,897	Whiteside.....	123	81,258
Kendall.....	23	33,449	Will.....	171	326,112
Knox.....	207	197,190	Williamson.....	150	558,378
Lake.....	150	700,987	Winnebago.....	135	284,078
LaSalle.....	198	157,675	Woodford.....	16	17,895
Lawrence.....	33	84,345			
Lee.....	42	77,595	Total.....	14,074	\$20,928,518

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EIGHTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1924
TO
June 30, 1925

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CLIFFORD IRELAND, Director

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DIVISION OF FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

Herewith is submitted the annual report of the Division of Fire Prevention for the fiscal year July 1, 1924, to June 30, 1925.

A new high record was reached both as to the amount of loss and the number of fires. The loss for the year was \$26,148,908. The number of fires was 18,115.

About one-third of the loss, \$8,915,170, was in the city of Chicago. The number of fires which made up this loss in Chicago was 7,899.

Losses by fiscal years in Illinois since the inauguration of the Civil Administrative Code have been:

Year.	Number fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908

The Illinois loss for the year was a part of a rising wave of losses throughout the nation which set a new loss record for the United States and Canada estimated at almost \$550,000,000. This despite the fact that during the last few years there has been a tremendous increase in organized fire prevention activities of every kind throughout the country.

Three factors, in my opinion, are the underlying causes of the fire loss situation and I do not look for any material reduction in losses until they are remedied. These factors are:

Careless underwriting and adjustment practices of insurance companies.

Lack of adequate local ordinances and failure to carry on effective fire prevention work in most communities.

Failure of most individuals to feel any sense of personal responsibility in the matter of preventing fires.

CARELESS UNDERWRITING AND ADJUSTMENT PRACTICES.

The evil of overinsurance, which is the cause of most incendiary fires, is due to careless underwriting by insurance agents. Careless underwriting is also responsible for insurance being placed on property of doubtful, if not questionable, character, which property is almost sure to burn after it has been covered by insurance.

Overinsurance is so prevalent that I made the statement a few years ago that it was responsible for fully half of the fire loss. I was roundly scored by a well known insurance journal for making such a statement. At the time this is written, one of the leading insurance companies of the country has published the assertion that no less than 40 per cent of the loss is incendiary. This assertion is based on an exhaustive study of the loss situation by this company, extending over several years. The same insurance journal which scored me has now come to the conclusion that my charge was based on facts and has been defending the charge made by the insurance company.

The fact is that an insurance agent seldom inspects property he is asked to insure. He does not know whether the values exist which he is asked to cover. He does not look into the physical condition of the property to see whether there are any serious fire hazards which should be remedied before any insurance should be granted. He does not as a rule inquire into, or pay much attention, to the moral character of the applicant for insurance, which ought to be one of the most important considerations of insurance underwriting. His main interest lies in the amount of insurance desired. The size of his commission depends on the size of the policy. In addition, the companies are continually pressing for a greater volume of business.

It is a fact that a crook can get ample coverage from one agent and then go to another agent and secure additional insurance. There is nothing to prevent this practice and it is being indulged in all the time. And if it should so happen that an agent turned down a questionable applicant, he could secure insurance from another agent.

Sometimes a company will reject a policy written by an agent. It is quite common in such cases for the agent to place the policy with another company which he represents. If that company turns it down, he tries another company, et cetera.

Overinsurance is not at all confined to the out and out crooks. Individuals of all classes and stations in life are overinsured. It seems that agents are quite keen for placing plenty of insurance on every risk possible. This results in many losses which are not strictly incendiary, but are due to overinsurance nevertheless. Give a person too much insurance and he is not likely to feel serious concern over the fire hazards of his property. He is not likely to pay much attention to them. He is likely to feel that he is "sitting pretty," since he has more than enough insurance to cover any possible loss. If things go bad with him financially, he is liable to let the fire hazards accumulate, sit back and trust that a fire will start.

Classes of property are written which are sure to burn. Road-houses, where bootleg liquor is sold, are one. It is quite the thing for roadhouses to burn immediately after the authorities have closed them up. Shady dance halls are another. They usually burn if business falls off.

Our investigations have shown that risks of this character are often given a classification of "mercantile," "restaurant," or some other legitimate classification in order to "put them over." We have found that risks of this character are more likely to be accepted by companies

if they are written by an agent who does a large volume of business, as they do not want to antagonize him by turning down the risk.

The idea is altogether too prevalent that there should be a profit in a fire. Liberal adjustments have fostered the idea that an amount should be collected in excess of the value of property actually lost. This sort of sentiment certainly does not discourage fires, but rather encourages them.

The adjustment evil is responsible for this. Small losses are often left to the agent to settle. The agent is always anxious to curry favor with the assured and is quite likely to be liberal. Hundreds of small overpayments run into a tidy sum in a year.

There are company agents who are inefficient or careless and they often make overpayments rather than have a controversy. The evil reaches its worst when there is downright dishonesty. There have been many cases of collusion with the assured to pad the loss and cases have come to light recently where adjusters settled losses when there had been no fire whatever.

Public adjusters, who make it a business to represent the assured in negotiating a settlement with the insurance companies, are responsible for much of this evil. They work on a commission basis and too often it is understood that they will secure an overpayment large enough to entirely cover the charge for their services. In order to do this, they must either outmaneuver the company adjuster or work in collusion with him.

Companies have recognized this evil for a long time and through the National Board of Fire Underwriters are trying to work out a plan to get rid of the incompetent, careless and dishonest adjusters.

I have dwelt at this length on the insurance evils because I believe they are largely responsible for our tremendous and growing loss. I believe they must be corrected before any substantial progress can be made in reducing the loss. They more than offset any progress we can make in fire prevention work.

LOCAL FIRE PREVENTION WORK.

There is nothing mysterious about the causes of fires. Fire hazards are well known and can be controlled effectively by local regulation. In most communities, however, this is not handled as well as it should be. In many of them obsolete ordinances are in force, while in many others there are scarcely any fire ordinances worthy of the name. Failure to enforce fire regulations rigidly is a glaring fault of most communities.

Every community should have up to date ordinances on the following subjects:

Fire limits ordinance, to prohibit inflammable construction in the business district and high value districts.

Building code, to regulate building in the interests of safety.

Anti-wooden shingle ordinance, to remove hazard of roof fires and general conflagrations.

Regulations on garages, oil storage stations, filling stations, dry cleaning plants and the hazards connected with the use of volatile liquids.

Ordinance covering type and installation of oil burning heating plants, so as to protect citizens from unsafe equipment.

Regulations on moving picture theaters and other theaters.

Electrical code, so as to require safe installation of electrical equipment.

Regulations covering hot air furnaces, steam and hot water heating plants.

Anti-rubbish ordinance.

Ordinances must not only be adequate to cover the hazards, but must have teeth in them and must be enforced. Fire is too serious a matter to be trifled with and enforcement must be rigid. The only practical way to control fire hazards is by a systematic plan of inspection by firemen. Inspections must be made frequently and orders issued must be carefully followed up. In the larger cities a fire prevention bureau should be established for this purpose. It should be in charge of some one official and firemen should be detailed to duty in groups, so all may have a turn at inspecting. Aside from keeping hazards down, knowledge of buildings gained in such inspections is of inestimable help to firemen in fighting a fire.

The fire losses of the State are the sum total of the losses in the various communities and they will not be cut down materially until the communities themselves do something to control them.

PERSONAL RESPONSIBILITY.

The human element enters largely into the fire loss. Human carelessness or negligence is responsible for a large portion of the loss. It is difficult to implant a feeling of personal responsibility in the average person for fires which may occur because of his negligence or carelessness, especially since insurance ordinarily will reimburse fully for the loss.

Principal hope in this direction lies with the school children. If they can be properly impressed, they will form habits of carefulness which they will exercise when they become the citizens of tomorrow.

However, people can be made to be careful by proper local ordinances, properly enforced, and we are rapidly approaching the time when people will be held personally responsible by statute for fires caused by their carelessness, negligence or failure to obey fire regulations. In some states statutes are on the books along this line. If a person has failed to obey an order to remove fire hazards and fire starts from such hazard, the city may collect from him the entire cost of extinguishing the fire, besides penalizing him for refusing to comply with the order. If the property of other persons is destroyed by the fire, they may also recover damages.

In some foreign countries, a preventable fire is a criminal offense and, with the awakening of the public in America to the terrible loss, both in property and life, it would not be surprising if the awakened sentiment might swing in that direction in this country.

OUTSTANDING WORK OF THE YEAR.

The outstanding undertakings of the year in this division were (1) The Short Course on Fire Prevention, Control and Extinguishment at

the University of Illinois, and (2) the inaugurating of an inspection aimed to cover every schoolhouse in the State.

THE SHORT COURSE.

It has been my idea for a number of years that the State should furnish a medium for the education of firemen in practical matters of fire prevention, control and extinguishment. If we are to expect them to handle the fire problem in their respective cities, we must give them some training to enable them to do so. The average city has no facilities for such training and furthermore could not afford to provide such facilities. It was my thought that an annual short course at the University of Illinois would meet the situation.

The idea was submitted to the Illinois Firemen's Association and readily won their indorsement. Officers of the association took the matter up with the university, which accepted the idea and arranged the course, with the cooperation of the Illinois Firemen's Association and the State Fire Marshal.

The course was held June 16, 17, 18 and 19. It was open not only to firemen, but to building inspectors and other interested city officials, and also to representatives of industrial concerns interested in the subject. There was no charge for the course and the expense of those attending was simply railroad fare, lodging and meals. Speakers ranking high in their respective fields gave practical lectures and there were many valuable demonstrations.

Illinois was the first State to undertake this plan. Two others followed our lead and held similar courses shortly afterwards. Governor Small supported the plan heartily.

The attendance at the course was 219, which was remarkably large. There were present the first day 141 and at the final session 95 were present. A resolution was adopted unanimously asking that the course be made an annual event and plans are under way for a better and more varied course next year. The occupations of those attending were:

Fire chiefs and assistant chiefs.....	59
Fire captains and lieutenants.....	8
State fire officers and organization officials.....	4
Firemen	82
City officials	13
Public service and industrial representatives.....	14
Underwriters' Laboratories, actuarial bureaus, etc.....	10
Inspectors	6
Fire extinguishment and safety equipment.....	12
Miscellaneous—committee, instructors, etc.....	11

Proceedings of the course were printed in attractive book form.

SCHOOL INSPECTION.

On May 17, 1923, seventy-seven people perished and many more were injured in a rural school fire at Cleveland, South Carolina. The fire occurred during graduation exercises in the auditorium on the second floor when a hanging kerosene lamp on the stage fell. It was a two story frame building with a single stairway and no fire escape.

On Christmas eve, 1924, a similar tragedy occurred during the Christmas program at the rural school at Babb's Switch, Oklahoma. Thirty-six perished. The fire started when a candle ignited the Christmas tree. This was an ordinary one-room building, similar to

hundreds in Illinois. There was but a single door, while exit through windows was prevented by heavy wire netting, rigidly bolted in place.

These two tragedies impressed the thought forcibly that fire plays no favorites; that it is as easy to destroy in simple, one-room buildings as it is in two-story structures, if the conditions are right. That Illinois has had no similar tragedy is due to good fortune more than anything else.

We promptly decided to make a survey of all school buildings in Illinois—city, rural and parochial. Special blanks are provided, which, when filled out, show the exact condition of the building and all the fire hazards.

The task is herculean, since there are almost 16,000 school buildings in the State. We plan to have our deputies inspect the city school buildings, covering one county at a time. It is impossible for us to attempt to inspect rural buildings through our deputies, as they are so widely scattered and isolated. Hence we are asking every county superintendent to distribute the inspection blanks among his local school districts, requesting local officials to fill them out and return them to his office. The county superintendent is then to assemble the blanks from his county and mail them to us.

In the counties so far reported, we were surprised to learn of the large number of rural school buildings in the State which duplicate exactly the conditions of the Oklahoma school. Very few have more than a single exit door. Many of them have the windows permanently barred on the outside by iron bars or heavy wire netting. In others flues are in dangerous condition. Practically none of them have fire extinguishers, although this is very necessary protection, because of the distance of most country schools from city fire departments.

As fast as the reports are received, we are issuing orders against the buildings and serving the orders by registered mail on the local school officials. We are insisting on the following in every rural school building:

Two separate exit doors from the building, located as far apart as possible and equipped with panic bolts.

Barring devices on windows (which are placed there to keep out intruders) must be placed on hinges so that they may be easily opened from the inside in case of emergency.

Covered metal cans must be provided for storing of sweeping compounds or oil mops.

Chemical, non-freezing fire extinguishers must be provided.

If lamps are used, they must be rigidly fastened to studding and not simply fastened to plaster and lath.

Any other hazards which show on the report are dealt with according to their nature.

City school buildings present a more complicated proposition, but the essentials are the same—safeguarding hazards, making means of exit adequate and providing necessary emergency fire extinguishers.

It will take more than a year to complete the inspection. We are going to hold local officials responsible for conditions in their districts. We have had splendid cooperation from any county superintendents and local officials. At first our requirements seemed drastic

to them, but, as the inspection progresses, they realize the necessity of the requirements and most of them seem eager to have them complied with.

I believe this is the most comprehensive school inspection ever undertaken in the United States, but the safeguarding of the lives of our school children is fully worth all the effort expended.

INSPECTIONS.

Traveling throughout the State on assignment from the office, our deputies are systematically inspecting business and other important property in the various communities. During the year 35,720 separate inspections of property were made, besides 534 special inspections. Special inspections are made on request or complaint concerning specific pieces of property.

Inspections are followed up to see whether a compliance has been made with orders issued. Usually a compliance is secured without resorting to court procedure, but in thirteen instances fines were assessed for failure to obey orders. The division prefers to secure a compliance without court action and strives in every case to convince the property owner that it is to his interest to comply. We try to perform a service to the citizens of the State in showing them how to protect their property from fire.

During the year we secured the removal of 112 dilapidated buildings. This kind of building is usually a relic of years ago and is not only an eyesore, but a conflagration hazard.

Special hazards connected with the oil industry demanded considerable of our attention. We are rapidly bringing old oil storage stations up to the standards required, while new ones must be installed according to our requirements.

The increasing use of fuel oil burners for heating purposes presents a serious problem. There are many unsafe devices on the market. As most heaters go into homes, State regulation is not practical nor effective. It is impossible for us to know where these installations are made or to check the hundreds of thousands of homes in Illinois to find them. For that reason we are urging local officials to pass adequate ordinances for controlling the situation in their respective communities.

A detailed tabulation of the fire loss is appended to this report, but it is interesting to note the causes of the largest losses. In their order they are: Electricity (except electric irons and similar small devices), \$1,554,505; spontaneous combustion, \$1,364,458; sparks on wooden shingle roofs, \$1,332,731; exposure (adjoining fires), \$1,239,677; stoves and furnaces, \$1,026,458; defective or overheated flues, \$998,038.

The large loss from exposure suggests the danger that a fire may be the starting point for a general conflagration. A careless individual endangers not only his own property, but the property and lives of his neighbors. It is one of the strong arguments for imposing legal responsibility upon citizens for preventable fires.

The other causes illustrate the large losses which result from preventable causes. Everyone of the causes enumerated is preventable. Hazards connected with these and other causes of fire are given special attention when our deputies inspect property.

INVESTIGATIONS.

Several of our down-State deputies are kept busy investigating fires of suspicious origin, while the Chicago office force devotes its attention entirely to the investigation of such fires in Chicago. A tabulation of the investigation activities for the year follows:

Number of investigations open July 1, 1924.....	301
Number of new investigations assigned.....	661
Number of investigations closed.....	600
Number of cases open for further investigation July 1, 1925.....	362
Number of arrests.....	37
Number of indictments returned.....	25
No True Bills returned.....	16
Number of indictments nolle prossed.....	11
Number found Guilty.....	15
Number found Not Guilty.....	3
Indictments nollied with leave to reinstate.....	3
Indictments quashed.....	1
Cases dismissed.....	2

Suspicious fires are closely linked with overinsurance, which problem was discussed at length at the outset of this report. The great bulk of incendiary fires are set to collect insurance.

Crime of all sorts is rampant these days and the crime of burning is no exception. It seems to be an ever increasing difficulty to secure convictions for crime, and here again the same is true as to the crime of burning. In fact it has always been more difficult to secure evidence in arson cases than in other crimes, since the destruction is usually so complete that the evidence of the origin of the fire is destroyed. We work diligently and persistently in ferreting out the evidence and our efforts have resulted in stamping out arson in several communities. Although the culprit often escapes punishment, we are so hot on his trail that he is not inclined to take a second chance immediately and others are deterred.

The only practical way to prevent incendiary fires is to remove the cause, and the cause, as previously stated, is usually overinsurance.

HUMAN TOLL OF FIRE.

The most unfortunate feature of the fire loss is the death and maiming of so many people. In Illinois last year 142 deaths and 181 injuries were recorded from fire. The tabulation is as follows:

DEATHS.

	Babes.	Children.	Youths and middle aged.	Aged people.
DEATHS.				
Males.....	64	17	40	7
Females.....	78	26	43	9
Total.....	142	43	83	16
INJURIES.				
Males.....	121	15	105	1
Females.....	60	17	42	1
Total.....	181	32	147	2
Total dead and injured.....	323	75	230	18

Not all of the casualties occur in burning buildings. Use of kerosene to start fires, use of gasoline for dry cleaning in the home and lighting of matches near gasoline tanks of automobiles are some of the causes. Children playing around bonfires and igniting their clothing, women igniting their dresses from gas stoves, children playing with Fourth of July sparklers and other fireworks also account for loss of life and injuries. Individual carelessness is in short the principal cause and individual carefulness is the remedy.

EDUCATIONAL WORK.

Continuous publicity is given through the press to fire hazards. Addresses are made before civic organizations. Efforts are made to interest school children. An intensive campaign is made during Fire Prevention Week, held last year October 5 to 11, to interest the public. Forty thousand Fire Prevention Week posters and proclamations were distributed. The distribution covered all schools, every local community in the State, the press, civic clubs and chambers of commerce. We urged fire chiefs and local officials to have a practical observance of Fire Prevention Week and the results were beyond expectations.

Each year the interest in fire prevention is increasing. We are especially gratified to see chambers of commerce and civic clubs take hold of the question in so many communities. It means that a substantial public sentiment is being built up which will surely bear fruit.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1924 TO JUNE 30, 1925.

Total value of buildings in which fires have occurred.....	\$267,637,690
Total damage to said buildings.....	14,380,049
Total insurance on said buildings.....	187,129,864
Total value of personal property jeopardized by fire.....	79,480,348
Total damage to said personal property.....	11,768,859
Total insurance on said personal property.....	55,421,517
Total fire loss in the entire State of Illinois.....	26,148,908
Total number of fires in the entire State of Illinois.....	18,115

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1924 TO JUNE 30, 1925.

Total value of buildings in which fires have occurred.....	\$71,904,027
Total damage to said buildings.....	10,654,329
Total insurance on said buildings.....	39,133,293
Total value of personal property jeopardized by fire.....	20,447,023
Total damage to said personal property.....	6,579,409
Total insurance on said personal property.....	12,348,447
Total fire loss outside the City of Chicago.....	17,233,738
Total number of fires outside the City of Chicago.....	10,216

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1924 TO JUNE 30, 1925.

Total value of buildings in which fires have occurred.....	\$195,733,663
Total damage to said buildings.....	3,725,720
Total insurance on said buildings.....	147,996,571
Total value of personal property jeopardized by fire.....	59,033,325
Total damage to said personal property.....	5,189,450
Total insurance on said personal property.....	43,073,070
Total fire loss in the City of Chicago.....	8,915,170
Total number of fires in the City of Chicago.....	7,899

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1924, TO JUNE 30, 1925.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1924.			1925.		
July.....	995	\$1,097,865	January.....	2,076	\$2,784,097
August.....	776	1,062,168	February.....	1,595	1,786,152
September.....	1,008	1,596,358	March.....	1,883	2,832,626
October.....	1,233	1,334,672	April.....	1,744	5,146,783
November.....	1,779	1,510,734	May.....	1,482	2,033,585
December.....	2,157	3,111,268	June.....	1,387	1,852,600
Total.....				18,115	\$26,148,908

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1924, TO JUNE 30, 1925.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1924.			1925.		
July.....	462	\$ 761,545	January.....	1,296	\$2,069,922
August.....	396	825,798	February.....	1,032	1,150,937
September.....	603	1,371,803	March.....	1,171	1,831,606
October.....	700	1,175,547	April.....	1,037	2,451,063
November.....	990	1,084,989	May.....	820	1,272,790
December.....	1,107	2,364,923	June.....	602	872,815
Total.....				10,216	\$17,233,738

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1924, TO JUNE 30, 1925.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1924.			1925.		
July.....	533	\$336,320	January.....	780	\$ 714,175
August.....	380	236,370	February.....	563	635,215
September.....	405	224,555	March.....	712	1,001,020
October.....	533	159,125	April.....	707	2,695,720
November.....	789	425,745	May.....	662	760,795
December.....	1,050	746,345	June.....	785	979,785
Total.....				7,899	\$8,915,170

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE
NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY
1, 1924 TO JUNE 30, 1925.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,030	\$ 998,038
Electricity (except electric irons and similar small devices).....	1,203	1,554,505
Explosions.....	497	885,640
Exposure.....	1,023	1,239,677
Fireworks, fire crackers, balloons, etc.....	46	12,600
Friction, sparks occasioned by running machinery.....	62	40,215
Gas—natural and artificial.....	127	30,708
Hot ashes and coals, open fires.....	355	177,693
Hot grease, oil, tar, wax, asphalt (ignition of).....	114	32,672
Hot irons, including electric devices.....	195	56,813
Incendiarism.....	200	599,432
Lightning—building rodded.....	2	7,550
Lightning—buildings not rodded.....	311	869,809
Matches, smoking.....	2,150	738,119
Miscellaneous—cause known, but not classified (for unknown see No. 25).....	134	139,230
Open lights.....	350	205,713
Petroleum and its products.....	724	244,046
Rubbish and litter.....	749	252,696
Sparks—arising from combustion (other than 21).....	330	194,337
Sparks—on roofs.....	3,727	1,332,731
Spontaneous combustion.....	570	1,364,458
Steam and hot water pipes.....	88	29,025
Stoves, furnaces, boilers and their pipes.....	1,205	1,026,458
Unknown.....	2,668	12,291,701
Unknown origin, but investigation important.....	255	1,825,042
Total.....	18,115	\$26,148,908

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1924 TO JUNE 30, 1925.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,023	\$ 714,651
Amphitheaters, grand stands, etc.....	2	8,500
Bakeries.....	50	55,500
Barber shops.....	51	25,565
Barns and stables (not liveryes).....	1,122	1,892,400
Churches.....	61	173,921
Depots, stations, waiting rooms, etc.....	38	43,741
Dry cleaning establishments.....	72	41,190
Dry houses, kilns, rooms, etc.....	6	1,642
Dwellings.....	7,531	5,485,327
Elevators and grain warehouses.....	15	2,314,111
Factories.....	456	3,687,033
Foundries.....	40	30,376
Garages.....	877	1,116,961
Granaries.....	72	112,528
Green houses.....	2	75
Halls, (lodge) (club) (dance) (public) etc.....	91	555,717
Hotels and boarding houses.....	115	210,747
Hospitals.....	17	23,914
Ice houses.....	21	180,090
Jails.....	5	1,247
Laundries.....	42	26,435
Liveryes.....	2	38,750
Mills (flour).....	8	100,175
Mills (saw and planing).....	20	170,006
Office buildings.....	136	239,436
Oil houses.....	11	27,875
Photo studios.....	7	4,460
Power houses, pump houses and engine houses.....	36	61,376
Restaurants.....	144	170,512
Saloons.....	12	14,438
Sheds.....	973	192,077
Smoke houses.....	42	10,012
Silos.....	15	8,255
Stores.....	1,684	5,043,271
Shops (carpenter, blacksmith, etc.).....	210	135,175
Schools, (colleges, seminaries, etc.).....	88	834,211
Theatres and motion picture houses.....	25	73,703
Warehouses.....	152	1,209,046
Miscellaneous.....	152	231,387
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,254	142,810
Boats.....	7	4,405
Bridges.....	10	65,937
Cars, (railway) (electric) etc.....	129	63,893
Docks, (coal) etc.....	7	26,885
Fences.....	47	2,205
Grain and hay.....	116	106,721
Junk yards.....	29	79,309
Lumber yards.....	40	375,558
Tanks (water), etc.....	5	2,840
Tents.....	2	849
Trestles.....	4	9,165
Wagons.....	39	2,495
Total.....	18,115	\$26,148,908

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS JULY 1, 1924 TO JUNE 30, 1925.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	212	\$ 166,551	Livingston.....	104	97,736
Alexander.....	68	534,292	Logan.....	105	100,867
Bond.....	35	71,527	Macon.....	189	79,729
Boone.....	24	52,360	Macoupin.....	130	175,097
Brown.....	15	16,913	Madison.....	364	642,741
Bureau.....	74	305,334	Marion.....	102	133,377
Calhoun.....	1	4,800	Marshall.....	26	19,675
Carroll.....	39	49,378	Mason.....	34	55,825
Cass.....	40	34,378	Massac.....	26	33,178
Champaign.....	299	151,480	McDonough.....	28	259,418
Christian.....	68	120,378	McHenry.....	42	146,247
Clark.....	51	127,546	McLean.....	164	360,152
Clay.....	24	23,532	Menard.....	13	50,435
Clinton.....	38	37,816	Mercer.....	22	50,873
Coles.....	159	167,736	Monroe.....	14	29,531
Cook.....	8,679	10,532,815	Montgomery.....	80	155,942
Crawford.....	51	103,251	Morgan.....	104	74,020
Cumberland.....	31	39,028	Moultrie.....	43	183,750
DeKalb.....	99	109,931	Ogle.....	44	155,015
DeWitt.....	52	73,948	Peoria.....	500	1,241,675
Douglas.....	64	124,872	Perry.....	100	191,244
DuPage.....	67	170,066	Piatt.....	29	60,200
Edgar.....	122	181,512	Pike.....	35	60,803
Edwards.....	8	4,345	Pope.....	1	20
Effingham.....	46	48,113	Pulaski.....	10	59,057
Fayette.....	43	62,036	Putnam.....	10	27,800
Ford.....	49	57,532	Randolph.....	30	53,935
Franklin.....	69	251,875	Richland.....	45	40,696
Fulton.....	154	136,534	Rock Island.....	305	442,143
Gallatin.....	23	45,370	Saline.....	149	169,029
Greene.....	67	136,351	Sangamon.....	426	439,090
Grundy.....	33	68,310	Schuyler.....	17	150,751
Hamilton.....	57	59,136	Scott.....	8	181
Hancock.....	53	72,422	Shelby.....	78	124,651
Hardin.....	4	457	Stark.....	23	27,191
Henderson.....	10	63,905	St. Clair.....	552	612,625
Henry.....	133	113,271	Stephenson.....	41	45,576
Iroquois.....	74	196,424	Tazewell.....	64	69,518
Jackson.....	187	104,593	Union.....	26	84,091
Jasper.....	29	43,625	Vermilion.....	197	414,444
Jefferson.....	115	106,772	Wabash.....	49	58,213
Jersey.....	10	13,119	Warren.....	75	36,043
JoDaviess.....	32	79,727	Washington.....	33	23,470
Johnson.....	1	3,950	Wayne.....	58	152,259
Kane.....	331	302,763	White.....	41	44,282
Kankakee.....	146	174,741	Whiteside.....	166	394,474
Kendall.....	35	63,208	Will.....	229	560,095
Knox.....	178	150,275	Williamson.....	167	333,774
Lake.....	232	319,751	Winnebago.....	162	305,288
LaSalle.....	291	953,329	Woodford.....	12	34,425
Lawrence.....	62	51,336			
Lee.....	59	205,543			
			Total.....	18,115	\$26,148,908



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925/26

NINTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1925
TO
June 30, 1926



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CLIFFORD IRELAND, Director

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JOURNAL PRINTING CO.
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FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

In the fiscal year covered by this report a new high record was made both in the number of fires reported and the size of the loss. Our tabulation shows 18,049 fires and a loss of \$27,112,084.

Losses by fiscal years since the inauguration of the Civil Administrative Code have been:

Year.	Number fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,513
1924-1925.....	18,115	26,148,808
1925-1926.....	18,049	27,112,084

The size of the loss is not at all surprising in view of the tremendous increase in the national fire loss, which now approximates \$510,000,000 a year. The entire country has been in the grip of a high loss wave, which has grown in proportions despite increased efforts to hold it in check.

The record is nothing short of a disgrace, because 75 to 90% of all fires could be prevented by the exercise of ordinary care. I see no great possibility of coping with the fire problem until insurance practices become more strict, local ordinances more satisfactory and enforcement of local ordinances more efficient.

The fire loss problem has not been taken seriously enough either by local officials or citizens generally. The fact that insurance reimburses the owner for the loss seems to be responsible for a good deal of lethargy and indifference. If insurance were suddenly cancelled in a community, there would be a great haste, officially and individually, to see that everything was placed in ship-shape order as regards fire hazards.

The ordinary person feels that his concern about fire ceases when he amply covers his property with insurance. The incentive to keep the premises free from fire hazards is lessened, especially if such upkeep involves some expense.

It is not at all uncommon to hear individuals express the opinion that it would be a good thing for the town if certain old buildings should burn, so that modern ones would be built. If the owners of such buildings have a similar attitude, they are very likely to let them run down, to allow fire hazards to accumulate and so invite fire. It is only one

step farther to help the fire get started, especially if the insurance is sufficient to yield a nice price for the structure. Whereupon, a good many people will sympathize with the owner and rejoice that the town will have a nice, modern building in place of the old, run-down one.

If the public were called upon to vote a direct tax to make good all the fire losses in the community, there would be an uproar. Yet insurance is a public tax, levied directly, and amounts to the same thing. Insurance money is something which is contributed by all of us and every citizen should object strenuously to making good losses to careless individuals and to dishonest ones. Most fires should bring disgrace and public condemnation on the individuals responsible for them, instead of sympathy. Local officials should endeavor to fix this responsibility after each fire and some day there will be personal liability laws, which will make the individual pay the cost of extinguishment to the city and reimburse any other person who may have suffered loss through his fire.

There is another important angle to be considered in connection with each fire. One never can tell when a fire will be the starting point of a conflagration, sweeping a wide area and causing death and injury, as well as property loss.

An honest citizen who maintains his home or place of business in clean, safe condition, should be protected against a careless, slovenly, irresponsible neighbor, who trusts to luck and insurance to protect him. Furthermore, there is no equity in honest, careful people paying high insurance charges year after year to pay an increasing fire loss, due to culpable carelessness and flagrant dishonesty.

LEADING CAUSES OF FIRE.

Forgetting for the moment the dishonest losses, carelessness is the evil genius of fires. Personal carelessness and bad housekeeping are very much akin. To allow accumulations of rubbish about the building, to let heating equipment run down and to allow other dangerous conditions to go unremedied is bad housekeeping and the person responsible should be made to feel the disgrace in case of fire.

Causes which were responsible for the largest losses in Illinois in this fiscal year were:

	Number fires.	Loss.
Stoves, furnaces, boilers and their pipes.....	1,559	\$2,504,112
Electricity (except electric irons and similar small devices).....	1,328	2,236,113
Matches—smoking.....	2,410	1,910,765
Spontaneous combustion.....	593	1,077,241
Sparks on roofs.....	2,338	1,059,477

The loss from these five causes totaled \$8,787,708, or almost one-third of the entire loss from all causes.

It would seem that safety of heating equipment should be the first concern of every property owner, and especially so in the home, where lives of the family may be snuffed out as they sleep. A great deal of heating equipment is not properly installed. Often there is not sufficient clearance to joists, partitions, walls or other combustible material. A

contractor who installs the heating plant unsafely, whether he does it to skimp the job or through downright carelessness, ought to be severely punished. He should be held responsible at civil action for any damage that results and should death or injury occur, he should answer to the limit under criminal statutes. Householders themselves are responsible for many fires by overheating stove or furnace, or failing to provide proper protection where combustible material is close.

In many homes, schoolhouses and other places, stoves are set very close to walls without metal or asbestos protection, while too often the proper metal protection is not placed underneath stoves to catch hot coals. It is not uncommon to find a waste paper basket or box crowded between the stove and wall, while too often the smoke pipe is allowed to rust out, is unsafely supported, or is run through partitions without a protecting thimble. Practically every fire due to a heating plant is the result of carelessness in installation, upkeep or operation. The biggest tragedy in Illinois from this cause was in Belleville last May, when seven of a family of ten perished in a humble dwelling because a stove, placed close to a combustible wall, was overheated.

Just a trifle smaller than the loss due to heating equipment was that caused by electricity, exclusive of pressing irons and similar small devices. Properly installed, electricity is surrounded by every protection and is not a hazard. But it is a serious hazard if improperly installed or tampered with. Tampering with fuses is one of the prolific causes of fire. A fuse is intended to blow out if there is trouble or overloading on a circuit. It is the safety valve and sentinel. If it blows out, the trouble should be located and remedied. Plugging the fuse or placing a penny behind it simply fixes it so that it cannot blow. If there is a short circuit a fire will probably occur, while if there is overloading, the wires will overheat, break down the insulation and start a fire. Common causes of overloaded circuits are: Lamp cord extensions, use of sockets adapted for multiple attachments, use of cooking or heating appliances which overtax capacity of circuit, especially the use of several of them at once on the same circuit. It is up to the electrical industry to educate the people in the proper and safe use of appliances. The householder should shun lamp cord for extending current about his home and should never tamper with a fuse or overfuse a circuit.

Fires due to electric pressing irons and similar small devices are listed separately and deserve special attention. There were 223 such fires during the year, mostly due to pressing irons, with a loss of \$220,602. This is quite a cost to pay for carelessness of the housewife or maid in leaving the iron on the board, with current turned on, while she answers the door, the telephone or performs some other errand. Every woman who uses an electric iron should form the habit of turning off the current every time she leaves it.

The record made by matches and smoking—2,410 fires and a loss of \$1,910,765—is anything but a tribute. Fires due to this cause are inexcusable. A match should not be discarded until it is out. An effective habit is to break the match in two before throwing it away.

A person who smokes ought to be thoughtful enough to be careful with live ashes and butts of smoking materials. The cigaret butt is probably the worst offender. It takes but a moment to crunch the butt and make it harmless.

Spontaneous combustion, the fourth ranking cause, is caused by improper disposal or handling of things which are susceptible to spontaneous ignition. Oily rags and waste, sweeping compound and rubbish piles ignite spontaneously. Such articles should be kept in closed metal containers. Oil mops are in the same category. Certain commodities which are handled commercially must be stored in a special way to protect against self-ignition, while green hay is very likely to heat and ignite. Hence hay should be thoroughly cured before being placed in the mow.

Sparks on roofs caused more fires than any other cause, although the amount of loss ranked fifth. This source of fire can be controlled by substituting fire resistive roof coverings for wooden shingles and is a matter of control by local ordinance.

Other detailed causes will be found in the tabulation at the end of this report.

INSPECTIONS.

Routine inspections made by deputies during the year number 20,941, plus 291 special inspections. Dilapidated or firetrap buildings removed as a result of efforts of the division totaled 83. Fifty-three fines were collected as a result of prosecution by the division for failure to comply with orders.

Under the Fire Marshal Act the division has general authority over fire hazards and unsafe conditions, while it also enforces the following specific statutes.

Fire escape act.

Act relating to fire escapes and safety appliances in hotels.

Portions of factory act which relate to fire escapes and provisions for safe exit.

Act requiring exit doors of public buildings to open outward.

Act prescribing color and label for gasoline receptacles.

Act to regulate storage, transportation, sale and use of gasoline and volatile oils.

Under the last named act, an exhaustive set of rules has been prepared, covering all the uses of gasoline and volatile oils, including fuel oils. Among the items covered are bulk storage, filling stations, garages, dry cleaning plants and oil burning furnaces.

Probably the most extensive piece of inspection work was done in Peoria, where, at the request of city officials, a group of inspectors was assigned to give the city a thorough inspection. They remained for several weeks, checking all orders carefully, with the following result: Of 969 orders issued, 877 were fully complied with before the deputies left the city, while work was under way to comply with the balance. Splendid cooperation by local authorities helped materially and this almost 100% record was achieved without a single prosecution. A few

stubborn property owners took steps to comply when they found the State's attorney also cooperating with us.

One of the gratifying features of this inspection was that garages were all lined up for proper heating and ventilation. The garage question is always difficult to handle, because the necessity for proper ventilation and heating is not generally understood. Our deputies secured results by explaining and demonstrating carefully to the garage owners.

A group inspection was also made in Danville, with 1,197 orders issued, and there were also group inspections in Waukegan and North Chicago.

Garage ventilation was also given special attention in Bloomington, with excellent results.

Substantial progress has been made during the year in having proper dikes built around gasoline storage tanks and in enforcing general compliance with our rules on part of gasoline storage stations.

Efforts to safeguard life by requiring proper exit facilities have been continued and many fire-escapes have been erected all over the State.

While our deputies travel throughout the State, seeking out fire hazards and requiring their correction, nevertheless it is impossible to secure permanent results without local cooperation. Absence of adequate ordinances in most cities permits conditions which ought not come into being. If all cities would adopt a comprehensive code of fire ordinances and enforce them through careful inspection, the fire loss of the State would immediately start downward.

RURAL SCHOOL INSPECTION.

Reference was made in last year's report to the inauguration of a rural school survey so as to make these schools reasonably safe. This work has been continued. Under the plan, blanks were furnished to each county superintendent of schools, with a request that he have them filled out by local school officials and return the reports to this office. About half of the counties in the State have reported and orders have been sent by registered mail to local school officials in all such counties. These orders are based on the showing made in the reports. With few exceptions county superintendents are cooperating with us and most local school directors are manifesting a desire to do everything necessary to protect the pupils. The essential things required in all rural schools are:

Flue must be substantially built from ground to a height three feet above ridge of roof.

Heating equipment must be protected with metal or asbestos underneath and on all woodwork within three feet.

Stovepipe must be connected in a rigid manner and installed a safe distance from woodwork.

Heating equipment must not obstruct exits.

Ashes and rubbish must be removed daily.

Sweeping compounds and oil mops must be stored in metal containers.

Each school room (of one-room schoolhouses) must have two separate exits leading directly to the outside, with doors equipped with

panic bolts which will release with pressure. The exits should be located as far apart as possible, so that if one is cut off, the other will be available.

Wire guards must not be nailed or bolted to windows, but must be hinged so they can be easily opened from the inside.

An approved, non-freezing fire extinguisher must be provided.

Lamps must be fastened rigidly (not simply screwed in plaster) and a safe distance from window shades and inflammable material.

Fire drills must be practiced.

City schools are given personal inspections by deputies and orders issued according to conditions found.

FIREMEN'S SHORT COURSE.

The second Short Course on Fire Prevention, Control and Extinguishment was held at the State University June 15, 16, 17 and 18. The registration was 236, an increase of seventeen over the first course. With the experience of two courses behind us, we feel that we will now be able to arrange programs to better advantage. We find that demonstrations and practical work are not only most interesting to the "students," but that they grasp the lessons when presented in that way better than in lectures. Our programs for future courses will be arranged with that in mind, although there will always have to be some lecturing. We hope to have a drill tower as a permanent institution. We also expect to develop group instruction, so that cities may be grouped according to size and appropriate instructions given to each group.

We hope through the short course to train local firemen to handle fires more efficiently and to develop fire prevention programs in cities and villages throughout the State. The course is open not only to members of fire departments, but to all city officials who may be interested and to representatives from private industries as well. There is no charge and the only expense is actual railroad fare, room and board.

Illinois was the pioneer State in inaugurating this course and indications are that several other states will follow suit. One or two have put on something akin to it since our first course.

INVESTIGATIONS.

The tabulated record of investigations for the year was:

Investigations open July 1, 1925.....	362
New investigations assigned.....	601
Investigations closed	720
Cases open for further investigations June 30, 1926.....	253
Arrests	38
Indictments returned	34
No true bills returned.....	16
Indictments nolle prossed.....	12
Found guilty	9
Found not guilty.....	7
Cases presented to grand jury and no action taken.....	4
Cases dismissed	4
Cases stricken with leave to reinstate.....	2
Cases dismissed from custody.....	2
Cases reversed by Appellate Court.....	1

Several of our deputies devote themselves exclusively to the investigation of fires of doubtful origin. Although evidence is sufficient in many cases to support a presumption that the fire was set, it is only

in a relatively few cases that it is sufficient to convict. The real result of our investigations is not apparent from a mere showing of convictions. In cities where we have investigated losses, the moral effect of the investigation seems to have stopped questionable fires, at least for some time.

Most fires are set in order to collect insurance, while some are set for spite, revenge or similar motives. A few are set to conceal robbery or other crime, while a small number are set by pyromaniacs.

The function of the division is to secure all the evidence possible and, if the evidence warrants, submit it to the State's attorney of the county where the fire occurred. Some State's attorneys have cooperated heartily with us and this has helped us materially in such counties. We find grand juries and petit juries rather uncertain, with sentiment usually inclined toward the suspect. This is perhaps due to the fact that he could not collect insurance if convicted.

Sufficient evidence to convict is usually lacking in cases of burning. It is seldom possible to place the suspect close enough to the fire to prove, beyond reasonable doubt, that he set it.

One of the remedies of the situation is the exercise of more care by insurance agents in writing risks of doubtful character and in taking care to write no more insurance than the actual values warrant. Without over-insurance there would be no incentive to fire the property.

DEATHS AND INJURIES.

Casualties for the year so far as the division could learn were:

Sex.	Total.	Babes and children.	Youths and middle aged	Aged people.
DEATHS.				
Males.....	61	17	42	2
Females.....	79	26	44	9
Total.....	140	43	86	11
INJURIES.				
Males.....	101	16	85	0
Females.....	59	13	45	1
Total.....	160	29	130	1
Total dead and injured.....	300	72	216	12

This distressing feature of our fire loss is also due largely to carelessness. The casualties do not all occur in burning buildings. Many of them are due to use of kerosene to start or hurry fires, striking of matches near gasoline, use of gasoline, benzine or naphtha in the home for dry cleaning, clothing catching fire from stove, fire-place or bonfire, and so on. Kerosene should never be used to start or hurry fires. The number of horrible deaths and injuries should be ample warning. Gasoline and similar volatiles should be kept away from all fire. It takes but the smallest spark to ignite the vapor if the mixture of gas

and air is in the right proportion. Hence, dry cleaning in the home should be avoided. Static electricity from handling the garments may furnish the spark, while it should be remembered also that the vapors are heavier than air, find their way to the lower levels and linger long. Every care should be exercised around any open fire, especially by women and girls, since dresses easily ignite. Especial care should be taken to keep children away from matches and bonfires.

EDUCATION AND PUBLICITY.

Fire Prevention Week observance gathered more momentum than ever. Increased interest was marked, especially among civic organizations. Forty thousand Fire Prevention Week posters and the same number of copies of the Governor's proclamation were distributed, aside from letters and other literature. We reached every hamlet in the State.

Throughout the year we keep fire prevention before the public through addresses, bulletins and pamphlets. By arranging our material in the proper newspaper style and giving out material which has news value we have had 100 per cent cooperation from the press.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1925 TO JUNE 30, 1926.

Total value of buildings in which fires have occurred.....	\$308,174,345
Total damage to said buildings.....	14,563,648
Total insurance on said buildings.....	214,735,026
Total value of personal property jeopardized by fire.....	86,236,038
Total damage to said personal property.....	12,548,436
Total insurance on said personal property.....	60,558,622
Total fire loss in the entire State of Illinois.....	27,112,084
Total number of fires in the entire State of Illinois.....	18,049

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1925 TO JUNE 30, 1926.

Total value of buildings in which fires have occurred.....	\$85,069,797
Total damage to said buildings.....	10,193,168
Total insurance on said buildings.....	42,907,206
Total value of personal property jeopardized by fire.....	24,953,153
Total damage to said personal property.....	6,745,341
Total insurance on said personal property.....	12,781,802
Total fire loss outside the city of Chicago.....	16,938,509
Total number of fires outside the city of Chicago.....	9,784

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1925 TO JUNE 30, 1926.

Total value of buildings in which fires have occurred.....	\$223,104,548
Total damage to said buildings.....	4,370,480
Total insurance on said buildings.....	171,827,820
Total value of personal property jeopardized by fire.....	61,282,885
Total damage to said personal property.....	5,803,095
Total insurance on said personal property.....	47,776,820
Total fire loss in the city of Chicago.....	10,173,575
Total number of fires in the city of Chicago.....	8,265

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1925 TO JUNE 30, 1926.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1925			1926		
July.....	1,110	\$1,216,582	January.....	1,879	\$2,612,854
August.....	1,111	2,754,037	February.....	1,299	3,160,064
September.....	991	1,984,293	March.....	1,828	3,585,012
October.....	1,247	1,163,796	April.....	1,696	2,129,246
November.....	1,478	1,213,328	May.....	1,620	1,932,699
December.....	2,466	3,749,901	June.....	1,324	1,580,272
Total.....				18,049	\$27,112,084

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1925 TO JUNE 30, 1926.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1925			1926		
July.....	498	\$ 678,087	January.....	1,015	\$1,545,279
August.....	593	813,462	February.....	698	2,537,589
September.....	504	1,352,073	March.....	1,060	1,650,717
October.....	608	844,106	April.....	972	1,378,866
November.....	819	867,553	May.....	851	1,515,039
December.....	1,476	2,618,006	June.....	690	1,137,732
Total.....				9,784	\$16,938,509

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1925 TO JUNE 30, 1926.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1925			1926		
July.....	612	\$ 538,495	January.....	864	\$1,067,575
August.....	518	1,940,575	February.....	601	652,475
September.....	487	632,220	March.....	768	1,934,295
October.....	639	319,690	April.....	724	750,389
November.....	659	345,775	May.....	769	417,660
December.....	990	1,131,895	June.....	634	442,540
Total.....				8,265	\$10,173,575

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE
NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY
1, 1925 TO JUNE 30, 1926.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, over-heated or defective.....	1,017	\$ 764,603
Electricity (except electric irons and similar small devices).....	1,388	2,236,113
Explosions.....	440	619,799
Exposure.....	797	971,791
Fireworks, fire crackers, balloons, etc.....	41	33,339
Friction, sparks occasioned by running machinery.....	48	71,185
Gas—natural and artificial.....	87	25,911
Hot ashes and coals, open fires.....	340	101,880
Hot grease, oil, tar, wax, asphalt (ignition of).....	93	45,376
Hot irons, including electric devices.....	223	220,602
Incendiarism.....	177	411,558
Lightning—buildings not rodde.....	316	593,424
Matches, smoking.....	2,410	1,910,765
Miscellaneous—cause known, but not classified (for unknown see No. 25).....	151	133,524
Open lights.....	337	158,674
Petroleum and its products.....	957	458,740
Rubbish and litter.....	732	311,879
Sparks—arising from combustion (other than 21).....	267	639,312
Sparks—on roofs.....	3,338	1,059,477
Spontaneous combustion.....	593	1,677,241
Steam and hot water pipes.....	74	22,465
Stoves, furnaces, boilers and their pipes.....	1,559	2,504,112
Unknown.....	2,500	9,217,780
Unknown origin, but investigation important.....	164	3,222,534
Total.....	18,049	\$27,112,084

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1925 TO JUNE 30, 1926.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,311	\$ 735,485
Amphitheaters, grand stands, etc.....	2	5,025
Bakeries.....	71	94,488
Barber shops.....	37	9,265
Barns and stables (not liveryes).....	845	1,388,447
Churches.....	82	271,353
Depots, stations, waiting rooms, etc.....	22	14,741
Dry cleaning establishments.....	61	31,738
Dry houses, kilns, rooms, etc.....	1	40,000
Dwellings.....	7,425	5,111,123
Elevators and grain warehouses.....	20	720,715
Factories.....	529	6,684,055
Foundries.....	51	40,680
Garages.....	919	1,148,901
Granaries.....	53	73,747
Green houses.....	5	34,665
Halls (lodge) (club) (dance) (public) etc.....	88	216,679
Hotels and boarding houses.....	124	194,547
Hospitals.....	12	9,920
Ice houses.....	7	11,245
Laundries.....	64	61,791
Liveries.....	1	10
Mills (flour).....	7	20,035
Mills (saw and planing).....	10	27,125
Office buildings.....	136	193,967
Oil houses.....	33	35,010
Photo studios.....	8	30,346
Power houses, pump houses and engine houses.....	39	49,785
Restaurants.....	151	156,699
Saloons.....	17	9,760
Sheds.....	849	154,180
Smoke houses.....	31	8,812
Silos.....	9	4,250
Stores.....	1,818	5,283,700
Shops, (carpenter, blacksmith, etc).....	112	97,268
Schools, (colleges, seminaries, etc).....	102	699,108
Theatres and motion picture houses.....	24	111,706
Warehouses.....	133	1,760,354
Miscellaneous.....	123	294,297
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,382	135,151
Boat's.....	9	79,050
Bridges.....	2	275
Cars, (railway) (electric) etc.....	117	47,011
Docks (coal) etc.....	6	3,095
Fences.....	26	297
Grain and hay.....	33	88,294
Junk Yards.....	44	38,385
Lumber yards.....	25	830,621
Tanks (water) etc.....	2	200
Tents.....	9	828
Threshing outfits.....	2	2,500
Trestles.....	3	39,500
Wagons.....	26	1,555
Total.....	18,049	\$27,112,084

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS JULY 1, 1925 TO JUNE 30, 1926.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	154	\$ 120,913	Livingston.....	61	\$ 78,075
Alexander.....	65	41,625	Logan.....	70	60,513
Bond.....	31	19,044	Macon.....	165	159,405
Boone.....	22	33,811	Macoupin.....	116	125,901
Brown.....	16	49,290	Madison.....	334	570,438
Bureau.....	108	133,023	Marion.....	64	68,204
Calhoun.....			Marshall.....	30	146,000
Carroll.....	45	43,709	Mason.....	22	21,970
Cass.....	36	32,435	Massac.....	30	93,433
Champaign.....	269	237,523	McDonough.....	66	100,154
Christian.....	85	147,121	McHenry.....	44	155,673
Clark.....	53	95,725	McLean.....	150	186,818
Clay.....	24	38,125	Menard.....	20	36,455
Clinton.....	53	73,856	Mercer.....	14	16,582
Coles.....	162	122,596	Monroe.....	6	12,832
Cook.....	9,110	11,724,030	Montgomery.....	61	83,059
Crawford.....	45	30,870	Morgan.....	82	89,555
Cumberland.....	26	256,391	Moultrie.....	35	55,585
DeKalb.....	81	158,642	Ogle.....	39	90,670
DeWitt.....	33	75,559	Peoria.....	400	541,502
Douglas.....	46	109,392	Perry.....	82	152,845
DuPage.....	67	82,330	Piatt.....	49	51,584
Edgar.....	96	147,759	Pike.....	47	496,954
Edwards.....	5	5,018	Pope.....	1	2,100
Effingham.....	64	153,949	Pulaski.....	1	200
Fayette.....	27	35,300	Putnam.....	13	21,275
Ford.....	40	91,922	Randolph.....	30	100,067
Franklin.....	177	367,448	Richland.....	38	45,826
Fulton.....	168	150,031	Rock Island.....	325	197,060
Gallatin.....	25	25,385	Saline.....	147	174,742
Greene.....	66	69,356	Sangamon.....	348	1,071,220
Grundy.....	18	134,175	Schuyler.....	18	36,894
Hamilton.....	40	54,891	Scott.....	1	35
Hancock.....	72	76,867	Shelby.....	62	62,799
Hardin.....			Stark.....	26	77,014
Henderson.....	17	55,345	St. Clair.....	538	605,666
Henry.....	161	109,699	Stephenson.....	43	136,932
Iroquois.....	58	179,724	Tazewell.....	134	127,956
Jackson.....	189	96,153	Union.....	40	63,145
Jasper.....	36	54,042	Vermilion.....	240	592,467
Jefferson.....	85	122,456	Wabash.....	58	116,214
Jersey.....	10	42,595	Warren.....	72	61,160
Jo Daviess.....	30	73,472	Washington.....	10	9,735
Johnson.....	3	10,200	Wayne.....	42	66,205
Kane.....	283	377,930	White.....	52	56,375
Kankakee.....	95	360,588	Whiteside.....	141	126,307
Kendall.....	34	81,365	Will.....	154	194,830
Knox.....	181	189,795	Williamson.....	198	366,449
Lake.....	210	772,310	Winnebago.....	210	1,364,372
LaSalle.....	241	294,257	Woodford.....	21	38,875
Lawrence.....	73	46,507			
Lee.....	43	114,450			
			Total.....	18,049	\$27,112,084

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TENTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1926
TO
June 30, 1927



H. U. BAILEY, Director

[Reprinted from the Tenth Administrative Report. Printed by authority of the
State of Illinois.]

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JOURNAL PRINTING CO.
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FIRE PREVENTION.

JOHN G. GAMBER, *Fire Marshal.*

A gratifying drop in the fire loss of the State is noted for this year. The total was \$21,225,806, as compared with \$27,112,084 for the preceding year. Examination of the table below shows also that this is the lowest loss in three years.

Since the close of the war, the tendency of fire losses throughout the nation has been upward. This is the first time there has been any perceptible trend downward. Whether this is simply a "happenstance" or whether it indicates a definite reversal of the former trend can not be judged on the basis of one year's record.

Yearly loss records since the reorganization of the Division made under the Civil Administrative Code have been:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,11	26,148,904
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806

One of the most pleasing features of this year's report is that there was a considerable reduction in the number of fires as well as a reduction in the amount of loss. This indicates that some progress was made.

CAUSES OF FIRES.

The five leading causes of fire, each taking a toll of more than \$1,000,000, were:

Matches and smoking.....	\$1,240,864
Electricity (except electric irons and similar small devices).....	1,164,976
Explosions.....	1,064,240
Stoves, furnaces, boilers and their pipes.....	1,052,019
Incendiarism.....	1,016,359

That matches and smoking should lead all other causes is a striking commentary on our habits as a careless and wasteful people. It is a fact that perhaps 90 per cent of all fires in the United States are preventable by exercise of ordinary care. The conspicuous place held by matches and smoking is a fitting illustration.

There is small excuse for fires from this cause. Matches should be kept in metal containers, away from the reach of children. They

should be struck with care and should not be discarded until they are entirely extinguished. They should not be used around inflammable material, gasoline or explosives. Every smoker is responsible for seeing that he puts his "smoke" out before discarding it, or that he deposits it in a suitable receptacle. Casting cigarette butts in waste paper baskets, on awnings or automobile tops has caused many fires. One of the notable conflagrations of this country, the Baltimore fire, started from the act of a careless smoker whose cigarette butt, carelessly discarded, fell through a bull's eye in the sidewalk and landed among combustible material below.

Rubbish and litter invite fire from stray matches and cigarettes and all premises should be kept in a clean and orderly condition always. It has been well said that a clean house seldom burns.

Electricity occupied second place among the causes of fire despite the fact that it is a relatively safe hazard when properly installed and used. It is asserted that only four per cent of electrical fires have occurred in buildings wired according to the National Electrical Code. Much of the remaining losses are due to improper wiring and overloading of circuits.

Another prolific cause of electrical fires is careless use of electric irons and other appliances. The most common practice is that of leaving the electric pressing iron with the current turned on. It does not take long for the iron to become red hot and start a fire. Fires due to electrical appliances are not listed under the general heading "electricity," but are given a separate classification.

Loss from fires due to explosions is usually apt to be large, as an explosion can do a great deal of damage in a moment. Widespread use of gasoline and volatile oil products in the automobile, dry-cleaning and other industries, increase the explosion hazard, while some of the modern lacquers are also highly explosive. The hazards are very well understood in industry, however, and the safeguards are simple and well understood. Individual carelessness is often at fault.

Stoves, furnaces, boilers and their pipes have always been one of the leading causes of fire. Despite the fact that an installation can be made perfectly safe, people continue to tolerate unsafe ones. Probably nothing is neglected in the way of overhauling and repair more than a heating plant. When fires go out in the spring, scant thought is given the heating plant until fall, when it is necessary to have heat again. On cold days the fire is overcrowded and the plant overheated. This not only invites a fire at the time, but is likely to crack some portions of the heating plant, causing a serious hazard. An annual cleaning and examination should be given every heating system and necessary repairs should be made promptly.

Defective flues and smokepipes are also responsible for a large loss, the total in Illinois for the year covered by this report being \$674,259.

The toll credited to incendiary fires, while large, probably does not indicate the real size of the incendiary loss. I believe that not less than 40 per cent of the fire loss in state and nation is incendiary. The exact percentage can not be proved. Many fires due ostensibly to other

causes are touch-offs while the fires of unknown origin conceal a very great incendiary loss. More on this subject will appear in another portion of this report.

CLASSES OF PROPERTY SUFFERING LARGEST LOSSES.

Dwellings suffered most heavily. The loss was \$4,346,912. The number of fires was 6,447. Here is where individual carelessness takes its greatest toll, despite the fact that the home, man's most cherished possession, should be most zealously protected. Defective or overheated heating plants, defective flues and smokepipes, wooden shingle roofs, unsafe electrical installations, careless use of electrical equipment, rubbish, and carelessness with matches, gasoline and kerosene, are among the leading causes of fires in the home. Every one is preventable.

Home fires often break out in the night, suffocating members of the family before they awaken, or trapping them in upstairs sleeping rooms. The ordinary home is built of combustible material and is fuel for fire. Flame travels up through partitions and sweeps up stairways. Every precaution should be taken to safeguard the home and keep it free from hazards. Fire stops in the partitions are practical and valuable. An emergency fire extinguisher or two, kept handy, may put out a blaze before it gets a good start.

Many of the lives lost by fire in this State are lost in homes.

Stores ranked second in the size of loss with \$3,874,605, while factories were next with \$3,844,182. Property of this class is always high value property. A relatively small number of fires cause a large loss total, due to the high value involved. Unemployment follows in the wake of these fires and often the business does not resume after the fire. When a large factory does not resume, the community suffers for years.

Schools, colleges and other educational institutions suffered the fourth largest loss. There were ninety-four fires of this class, but a few of them ran into high valuations. Fortunately no loss of life occurred, a fact which we may attribute to good fortune. Other states have had school holocausts and we have simply been more fortunate than they. We can not rely on good fortune, however. We must bring our schools up to the accepted standards or some day we will pay the penalty.

Barns and stables ranked fifth with \$1,038,001, and garages sixth with \$1,010,614. Many old barns and stables are occupied as garages and when so used are a first class fire hazard. This no doubt accounts for the high loss on this class of property. Garages are subject to the hazards of gasoline and oil. Carelessness in the ordinary garage is notorious and a large loss is not to be unexpected.

INSPECTIONS.

The number of routine inspections of property totaled 19,345. In addition there were 265 special inspections. In twenty-four cases persons were fined for failure to comply with orders. A total of sixty fire-trap and dilapidated buildings were removed.

The purpose of inspections is to detect fire hazards and order their removal, and to enforce statutes with reference to fire escapes, exit doors

of public buildings, gasoline containers and the storage, transportation, sale and use of gasoline and volatile oils.

Our inspectors travel from community to community on assignment from the office. Necessarily their activities are limited to business and manufacturing properties, schools, hotels, hospitals, theaters and similar property where there is life hazard; and gasoline storage stations, dry-cleaning plants and similar places.

A conspicuous example of what can be accomplished by an intensive inspection of a city is shown by the record of Peoria. From 1922 to 1925 the per capita fire loss was as follows:

1922	\$24.84
1923	4.59
1924	8.43
1925	10.82

The latter part of 1925 we sent a crew of inspectors to Peoria at the request of local officials. They put on an organized inspection of all important property in the city. Every order was rechecked for compliance. Almost all the orders had been complied with before our deputies left, while the balance were in process of being complied with. In 1926 the per capita loss in Peoria dropped to \$2.32.

Local officials cooperated fully with our inspectors and the work is being followed up by the chief of the fire department.

It is absolutely necessary that local officials cooperate and follow up our work in order to secure permanent results.

Among the most important part of our work is the regulation of gasoline storage under the statute of 1919. Blue prints of all bulk storage plants must be submitted for approval before construction begins. Plants in operation are inspected by deputies and those not fully meeting our requirements are being brought up to the required standards. One of the important requirements is that tanks be provided with dikes sufficient to hold 150 per cent of the capacity of the tanks. It is required also that the property be fenced to keep out intruders. Generally speaking, we are securing excellent cooperation from oil companies in the enforcement of the rules.

Enforcement of the Fire Escape Act is another important part of our work. We have always given particular attention to this, as it involves safety to life.

SCHOOL INSPECTIONS.

The work of bringing schools up to reasonable standards of safety has progressed. Regular deputies have covered the city schools, while the rural schools have been covered through cooperation with county superintendents. Many scores of schools have complied with our recommendations, but there is still considerable work to be done. Many schools still are in the firetrap class. We are getting to all of them as rapidly as possible.

On the whole we have found local school officials disposed to cooperate, especially after matters had been explained to them. We have

had a few cases of antagonistic county superintendents and school officials, but they have been exceptions rather than the rule.

Publicity attendant upon our school campaign has awakened school officials and parents of the school children to the importance of fire safety. Numerous addresses have been made by the fire marshal to groups of school officials, which also have had beneficial results. I believe that school officials feel their responsibility for safety of the children more than they ever have before.

FIREMEN'S SHORT COURSE.

The third Short Course on Fire Prevention, Control and Extinguishment was held at the University of Illinois June 21, 22, 23 and 24, 1927. Quite a departure was made from the plan of the preceding courses. A program of practical work and demonstrations supplanted the program of lectures, although necessarily there were some lectures. I believe this is the most satisfactory plan.

The Legislature has made an appropriation of \$11,000 for a drill tower and for expenses of the short course for the biennium. Thus the course has won official recognition and its future would seem to be assured. The full purpose of the course will be realized when most of our cities and villages send representatives each year, thus securing the full benefit of the most efficient, practical methods of the prevention, control and extinguishment of fire.

Our short course is being widely copied in other states. Its importance is realized generally, both in this country and abroad, as we have received requests for copies of the proceedings from several foreign countries. I consider it one of the greatest achievements of fire prevention, as it makes possible the linking up of the facilities of all the communities of the State into an intelligent and organized drive on fire waste.

INVESTIGATIONS.

The tabulated record for the year was:

Number of investigations open July 1, 1926.....	243
Number of investigations assigned.....	494
Number of investigations closed.....	402
Number of cases open for further investigation, June 30, 1927.....	335
Number of arrests.....	31
Number of indictments returned.....	30
Number of no true bills returned.....	10
Number found guilty.....	11
Number of indictments nolle prossed.....	4
Number of cases dismissed.....	4
Number found not guilty.....	3
Number of pleas of guilty.....	2
Number of cases jury disagreed and dismissed case.....	1

As stated heretofore, it is probable that 40 per cent of the fire loss of state and nation is incendiary. While this can not be definitely proved, it is by no means a guess. One of the large fire insurance companies made a chart showing the relation between fire loss ratios and business failures from the year 1910. Throughout the entire period from 1910 to 1926, fire loss ratios increased as business failures increased. When business failures decreased, fire loss ratios decreased. The year 1926 for the first time showed a decrease, though just a perceptible one, in the fire loss ratio, despite an increase in business

failures. Whether this is merely a happenstance or a definite turn for the better can not be determined at this time.

Several of our deputies investigate fires of suspicious origin exclusively. If any tangible evidence is developed, it is their duty to present it to the State's attorney of the county where the fire occurred. Proceedings from then on are in the hands of the State's attorney, our deputies lending all the assistance possible, in building up the evidence and presenting it.

Fires of questionable origin have been effectively stopped in some communities as a result of our investigations. Even though it is not always possible to secure a conviction, the effect of a thorough investigation has a wholesome effect in any community.

The Division has secured numerous confessions during the year and in all obtained eleven convictions.

Since insurance is the motive which prompts most incendiary fires, the insurance companies can do much to prevent crooked losses. As a matter of fact they have been active the past year in cutting down or cancelling lines in doubtful territory and on questionable risks. The result has been absence of a bad fire record in several sections of the State where normally a bad record would have been expected.

HUMAN TOLL OF FIRE.

Casualties, so far as the division could learn were:

	Babes and children.	Youths and middle aged.	Aged persons.	Total.
DEATHS.				
Male.....	18	26	1	45
Female.....	20	21	6	47
Total deaths.....	38	47	7	92
INJURIES.				
Male.....	12	60		72
Female.....	14	49		63
Total injuries.....	26	109		135
Grand total deaths and injuries.....	64	156	7	227

The majority of casualties due to fire are preventable. Despite warnings and a large annual toll of deaths, it is still a common practice of many people to use kerosene to start fires or hurry them along. The use of matches to examine gasoline gauges or motors of automobiles brings disaster to many. Dry cleaning at home with gasoline, naphtha or benzine accounts for numerous deaths and injuries. A common cause of death and injury, especially to women and children, is clothing catching fire from bonfires, stoves and fire places. Some good rules to follow are:

Keep gasoline, naphtha and benzine out of doors.

If you must do dry cleaning with these materials, do it outside the house.

Keep matches and open flame away from these materials and do not smoke near them.

Never use kerosene to start or revive a fire.

Screen open fireplaces.

Keep children away from bonfires. Use extra care about any open light or flame.

EDUCATION AND PUBLICITY.

Fire Prevention Week was generally observed. Civic organizations participated generally and cooperation of a number of fire chiefs was conspicuous. The Division supplied 40,000 copies of two posters and 40,000 copies of the Governor's proclamation. One poster depicted a great factory loss. The other showed a home where seven persons died. Every hamlet and cross-road community was reached.

Throughout the year the message of fire prevention has been carried over the State in addresses by the fire marshal and in prepared news matter through press associations. It is significant that civic organizations now are requesting fire prevention addresses and newspapers are seeking fire prevention copy, whereas a few years ago fire prevention had to beg for a hearing.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1926 TO JUNE 30, 1927.

Total value of buildings in which fires have occurred.....	\$328,295,412
Total damage to said buildings.....	12,313,009
Total insurance on said buildings.....	241,864,463
Total value of personal property jeopardized by fire.....	75,868,371
Total damage to said personal property.....	8,912,797
Total insurance on said personal property.....	53,561,761
Total fire loss in the entire State of Illinois.....	21,225,806
Total number of fires in the entire State of Illinois.....	16,744

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1926, TO JUNE 30, 1927.

Total value of buildings in which fires have occurred.....	\$70,241,842
Total damage to said buildings.....	8,776,784
Total insurance on said buildings.....	40,385,048
Total value of personal property jeopardized by fire.....	20,609,531
Total damage to said personal property.....	5,272,337
Total insurance on said personal property.....	11,226,536
Total fire loss outside the city of Chicago.....	14,049,121
Total number of fires outside the city of Chicago.....	8,467

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1926, TO JUNE 30, 1927.

Total value of buildings in which fires have occurred.....	\$258,053,570
Total damage to said buildings.....	3,536,225
Total insurance on said buildings.....	201,479,415
Total value of personal property jeopardized by fire.....	55,258,840
Total damage to said personal property.....	3,640,460
Total insurance on said personal property.....	42,335,225
Total fire loss in the city of Chicago.....	7,176,685
Total number of fires in the city of Chicago.....	8,277

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1926 TO JUNE 30, 1927.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss
1926			1927		
July.....	1,267	\$1,454,681	January.....	1,951	\$2,664,751
August.....	1,047	1,660,198	February.....	1,593	1,736,450
September.....	916	1,626,098	March.....	1,712	1,276,090
October.....	1,162	1,020,648	April.....	1,452	2,809,900
November.....	1,347	1,950,710	May.....	1,093	1,139,079
December.....	2,054	2,225,524	June.....	1,150	1,661,677
			Total.....	16,744	\$21,225,806

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1926 TO JUNE 30, 1927.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1926			1927		
July.....	592	\$1,106,786	January.....	1,056	\$2,086,958
August.....	514	1,196,608	February.....	897	1,110,750
September.....	411	616,513	March.....	938	758,875
October.....	528	482,088	April.....	753	2,259,590
November.....	632	1,471,810	May.....	539	638,869
December.....	1,070	1,374,679	June.....	537	945,597
			Total.....	8,467	\$14,049,121

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1926 TO JUNE 30, 1927.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1926			1927		
July.....	675	\$ 347,895	January.....	895	\$577,795
August.....	533	463,590	February.....	696	625,700
September.....	505	1,009,585	March.....	774	517,215
October.....	634	538,560	April.....	699	550,310
November.....	715	478,900	May.....	554	500,210
December.....	984	850,845	June.....	613	716,080
			Total.....	8,277	\$7,176,685

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE
NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY
1, 1926 TO JUNE 30, 1927.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	868	\$ 674,259
Conflagrations.....		
Electricity (except electric irons and similar small devices).....	1,427	1,164,976
Explosions.....	400	1,064,240
Exposure.....	637	466,068
Fireworks, fire crackers, balloons, etc.....	47	10,449
Friction, sparks occasioned by running machinery.....	50	123,666
Gas, natural and artificial.....	103	26,097
Hot ashes and coals, open fires.....	279	70,701
Hot grease, oil, tar, wax, asphalt (ignition of).....	102	40,404
Hot irons, including electric devices.....	224	62,248
Incendiarism.....	222	1,016,359
Lightning—buildings rodded.....		
Lightning—buildings not rodded.....	339	602,608
Matches, smoking.....	2,348	1,240,864
Miscellaneous—cause known, but not classified (for unknown see No. 27).....	145	112,401
Open lights.....	267	100,166
Petroleum and its products.....	920	776,883
Rubbish and litter.....	739	300,895
Sparks—arising from combustion (other than 23).....	287	160,441
Sparks—on roofs.....	2,773	753,587
Spontaneous combustion.....	559	871,055
Steam and hot water pipes.....	44	7,427
Stoves, furnaces, boilers and their pipes.....	1,436	1,032,019
Unknown.....	2,304	9,278,318
Unknown origin, but investigation important.....	224	1,249,675
Total.....	16,744	\$21,225 806

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1926 TO JUNE 30, 1927.

Class of property.	Number.	Damage.
Apt. houses, flats and rooming houses.....	2,288	\$ 792,950
Amphitheatres, grand stand, etc.....	3	7,080
Bakeries.....	41	60,440
Barber shops.....	31	17,747
Barns and stables (not liveryes).....	738	1,038,001
Churches.....	62	259,627
Depots, stations, waiting rooms, etc.....	19	8,470
Dry cleaning establishments.....	47	26,207
Dry houses, kilns, rooms, etc.....	6	239,265
Dwellings.....	6,447	4,346,912
Elevators and grain warehouses.....	27	765,822
Factories.....	451	3,844,182
Foundries.....	37	288,785
Garages.....	874	1,010,614
Granaries.....	34	46,755
Green houses.....	3	185
Halls, (lodge) (club) (dance) (public) etc.....	93	335,295
Hotels and boarding houses.....	116	136,366
Hospitals.....	18	11,700
Ice houses.....	4	410
Jails.....	4	640
Laundries.....	41	51,501
Liveryes.....	1	33,000
Mills (flour).....	3	302,500
Mills (saw and planing).....	7	14,371
Office buildings.....	151	172,639
Oil houses.....	28	46,085
Photo studios.....	12	22,810
Power houses, pump houses and engine houses.....	23	15,356
Restaurants.....	189	182,686
Saloons.....	9	4,917
Sheds.....	703	155,397
Smoke houses.....	26	4,047
Silos.....	10	5,615
Stores.....	1,909	3,874,605
Shops, (carpenter, blacksmith, etc).....	108	61,044
Schools, (colleges, seminaries, etc.).....	94	1,099,650
Theatres and motion picture houses.....	33	143,440
Warehouses.....	141	642,118
Miscellaneous.....	128	163,244

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1926 TO JUNE 30, 1917—Concluded.

Class of property.	Number.	Damage.
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,453	\$127,191
Boats.....	14	13,225
Bridges.....	5	51
Cars, (railway) (electric) etc.....	116	103,565
Docks, (coal) etc.....	10	108,855
Fences.....	20	485
Grain and Hay.....	53	15,658
Junk yards.....	39	25,385
Lumber yards.....	24	468,500
Tanks (water), etc.....	3	160
Tents.....	7	933
Threshing outfit.....	2	1,900
Trestles.....	2	125,035
Wagons.....	37	2,405
Total.....	16,744	\$21,225,806

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF
ILLINOIS, JULY 1, 1926 TO JUNE 30, 1927.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	141	\$114,150	Livingston.....	71	\$ 99,279
Alexander.....	42	345,232	Logan.....	55	33,885
Bond.....	22	21,907	Macon.....	132	86,625
Boone.....	11	12,120	Macoupin.....	76	195,227
Brown.....	10	11,325	Madison.....	305	392,719
Bureau.....	82	67,282	Marion.....	61	49,463
Calhoun.....			Marshall.....	25	36,332
Carroll.....	40	40,394	Mason.....	41	196,362
Cass.....	23	16,853	Massac.....	20	19,294
Champaign.....	210	205,505	McDonough.....	43	52,185
Christian.....	62	55,011	McHenry.....	69	142,225
Clark.....	50	42,240	McLean.....	133	237,947
Clay.....	20	28,560	Menard.....	8	19,885
Clinton.....	30	33,414	Mercer.....	32	97,050
Coles.....	116	267,855	Monroe.....	5	12,220
Cook.....	9,018	9,047,608	Montgomery.....	63	198,161
Crawford.....	31	24,262	Morgan.....	72	56,190
Cumberland.....	21	22,418	Moultrie.....	32	93,820
DeKalb.....	81	157,033	Ogle.....	42	68,639
DeWitt.....	34	59,107	Peoria.....	369	351,371
Douglas.....	31	32,885	Perry.....	71	120,221
DuPage.....	97	140,466	Piatt.....	33	35,975
Edgar.....	63	111,698	Pike.....	36	56,725
Edwards.....			Pope.....	1	1,150
Effingham.....	35	19,599	Pulaski.....	14	17,227
Fayette.....	42	67,199	Putnam.....	7	9,775
Ford.....	29	85,930	Randolph.....	18	8,625
Franklin.....	88	133,654	Richland.....	23	24,285
Fulton.....	129	128,498	Rock Island.....	416	278,984
Gallatin.....	54	186,542	Saline.....	139	266,920
Greene.....	46	56,923	Sangamon.....	315	713,938
Grundy.....	20	92,025	Schuyler.....	17	23,467
Hamilton.....	34	36,321	Scott.....		
Hancock.....	53	44,630	Shelby.....	68	147,800
Hardin.....			Stark.....	13	16,850
Henderson.....	12	52,040	St. Clair.....	423	1,018,724
Henry.....	138	150,344	Stephenson.....	48	127,588
Iroquois.....	66	88,846	Tazewell.....	136	161,405
Jackson.....	115	73,055	Union.....	25	59,307
Jasper.....	29	38,320	Vermilion.....	227	395,425
Jefferson.....	68	51,070	Wabash.....	44	25,157
Jersey.....	1	3,100	Warren.....	59	50,766
Jo Daviess.....	27	32,975	Washington.....	14	7,872
Johnson.....			Wayne.....	18	104,480
Kane.....	264	534,241	White.....	24	38,753
Kankakee.....	74	206,223	Whiteside.....	129	167,359
Kendall.....	23	26,720	Will.....	220	622,546
Knox.....	177	81,012	Williamson.....	118	155,979
Lake.....	218	599,445	Winnebago.....	154	134,046
LaSalle.....	185	166,338	Woodford.....	13	21,846
Lawrence.....	70	112,383			
Lee.....	35	48,864	Total.....	16,744	\$21,225,806

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ELEVENTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1927

TO

June 30, 1928



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JUL 26 1932
UNIVERSITY OF ILLINOIS

H. U. BAILEY, Director

[Reprinted from the Eleventh Administrative Report. Printed by authority of the State of Illinois.]

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JOURNAL PRINTING COMPANY,
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FIRE PREVENTION.

S. L. LEGREID, *Fire Marshal.*

This is the annual report for the fiscal year beginning July 1, 1927, and ending June 30, 1928.

Illinois showed a fire loss for the fiscal year of \$21,629,185. While this is \$403,279 higher than the record of the preceding year, it is so much smaller than the losses in 1924-25 and 1925-26 that we feel justified in believing that losses are on the downward trend. After experiencing two years in which the loss totals exceeded 26 and 27 million dollars, it is gratifying to have them reduced almost to the 21 million dollar mark in two succeeding years.

Losses by fiscal years since the inauguration of the Civil Administrative Code have been:

Year.	Number fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185

The most tragic feature of the fire loss is that no less than 123 persons lost their lives and 152 were maimed or injured by fire or burns during the year.

A study of fires and their causes for the year again shows that perhaps 90 per cent are due to preventable causes, which could easily be prevented by the exercise of ordinary care and diligence on part of citizens. Carelessness and indifference are the twin underlying causes of our great fire waste. They are difficult to control because they seem to be so deeply ingrained in human nature.

Two points should be stressed. The largest losses are caused by the simplest fire hazards. A fire which seems insignificant at the start may reach proportions of a conflagration and sweep many buildings or even a whole block.

CAUSES OF FIRES.

Of the known causes of fires, those responsible for the largest losses were:

Electricity (exclusive of electric irons and similar small devices).....	\$1,273,871
Sparks on roofs.....	1,216,818
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,035,589
Stoves, furnaces, boilers and their pipes.....	1,017,507
Spontaneous combustion	831,978
Matches and smoking.....	772,139

It will be noted that hazards connected with heating plants—that is, flues, sparks on roofs and stoves-furnaces—caused a total loss of \$3,269,914, which is slightly more than 15 per cent of the entire fire loss. These hazards may be easily controlled by keeping the heating plant and appurtenances in safe condition and clean. The fact that these causes take such tremendous toll year after year is a striking attribute to the indifference of people toward these most dangerous hazards.

Hot irons, including small electrical devices, caused 198 fires and a loss of \$50,417. Carelessness in leaving hot irons unattended, with the current turned on, is largely responsible for this class of fire.

Efficiency of lightning rods is indicated by the fact that only one fire caused by lightning was reported in a building which was rodged.

As usual, the class of property suffering the largest loss was dwellings, wherein 7,327 fires occurred, with a loss of \$4,987,941. Stores were next with 2,010 fires and a loss of \$3,965,519, while factories were third with a loss of \$2,411,541, caused by 413 fires.

Garage fires totaled 1,106, with a loss of \$826,864.

No less than 1,797 automobiles were burned, involving a loss of \$183,167. This includes only automobiles which were burned along the road and does not include those destroyed or damaged in garages or other buildings.

Detailed tables giving complete statistical loss information appear at the end of this report.

INSPECTION ACTIVITIES.

One of the major functions of the Division is the prevention of fire through elimination of hazards. For this purpose deputies are sent to the various communities of the State to inspect property and order the correction or removal of dangerous conditions which may cause fire.

During the year 17,390 routine inspections were made, in addition to 265 special inspections.

One of the serious conditions we find in most communities is the dilapidated old building, relic of a former generation, which is both an eyesore and a conflagration hazard. During the year we accomplished the removal of 57 of these. In a good many cases, removal of such a building is followed by the erection of a slightly, modern structure, causing an improvement both of appearance and values.

The Division has ample power under the law to enforce its orders through court procedure, and does so when necessary. It is the desire, and has been the policy, however, to bring about compliances through persuasion. Most individuals readily comply when they are shown that it is for their own benefit and protection to do so. During the year it was necessary to have fines assessed only in two cases.

GASOLINE AND SPECIAL HAZARDS.

Particular attention is given special hazards, such as those involved in the sale, storage and use of gasoline and volatile oils. Illinois pioneered in adopting rules and regulations on this subject. Bulk storage stations, filling stations, garages, dry cleaning plants and oil burning furnaces are under strict regulation. Blue prints of all bulk storage stations must be approved before construction begins.

One of the most serious hazards in this and other States is that of a public garage in or adjoining a building where people gather or reside. In a great many communities dance halls and public halls are located on the second floor of a garage. Sometimes apartments or hotels are so located. The terrible danger of such a condition was illustrated early in 1928 at West Plains, Missouri, where 40 persons were killed outright by an explosion and fire in a garage, while a dance was in progress on the second floor. The explosion lifted the floor and when the blast was spent the helpless victims were dropped into the roaring, oil fed flames below. This demonstrates the wisdom of one of our rules, which is:

"No garage shall be kept or allowed in any building used for a school, place of assembly or detention, hotel, apartment, tenement or lodging house, or within 50 feet of any school, place of assembly or detention."

The Division also devotes special attention to the life hazard in hospitals, hotels, theaters, churches, public halls and other places of a similar nature by requiring safe and ample exit facilities as well as the control of fire hazards.

In all of this work the Division aims to perform its work as a helpful service to the citizens. No work is more important than that of conserving life and property from fire, and we feel that the State can render no more helpful service than this.

One of the bi-products of our work is a saving of many dollars to the citizens through fire insurance rates. It is a well known fact that nearby property is penalized by a heavy insurance rate when a dangerous fire hazard exists. Sometimes the penalty affects a whole block of property and occasionally an entire community. Enforcement of our requirements with reference to special hazards avoids such penalties. In many cases we have brought about removal of the penalties by removing the conditions which caused them. This phase of the Division's service is often overlooked.

PROTECTING SCHOOL CHILDREN.

No duty is so close to our hearts as that of safeguarding our school children. During a certain number of years of their lives they must go to school. They have no choice in the matter. Yet only a small percentage of the school buildings are firesafe. Many are firetraps, some of the worst sort. We are not any worse than any other state and it is not intended to cast any reflection on our schools. The fact is, here and elsewhere, that fire safety has not been given the attention by school officials which they have given to other features of the school system.

Illinois has been fortunate in not having loss of life in school fires, whereas terrible tragedies have occurred in some other states. Conditions which caused these tragedies exist in many of our schools and it has been our special purpose to remedy them.

For the past three years we have been making a survey of the school buildings of the State, both city and rural, for some of the worst disasters in other states have occurred in country schools. One of the most deplorable was in a typical one-room country school house at Hobart, Okla., where 36 died at a Christmas Eve entertainment because there was only one exit and the windows were barred.

Safe heating equipment, fireproof boiler rooms, approved electric wiring, safe metal containers for inflammable materials, sufficient exit facilities, approved fire escape equipment and systematic fire drills are some of the important requirements. In rural schools we permit screened windows only if they are hinged so they may be opened from the inside if necessary.

A pamphlet has been printed in which requirements are listed for both city and rural schools. This has been distributed among all architects, with a request that they cooperate with us in all new buildings, additions or remodeling jobs.

Generally speaking, most school boards are responsive to our orders. Some are backward and in such cases the interest and cooperation of parents is very helpful.

The same attention is given to parochial schools as to city schools.

It is estimated that we have caused an improvement of not less than 50 per cent in safety of school buildings since undertaking the school survey.

The fire loss in school buildings and colleges in Illinois last year was \$526,289, caused by 83 fires. School authorities who boast that their buildings cannot burn might well contemplate these figures, especially the fact that the average shows more than one school house fire a week.

INVESTIGATION OF FIRES.

Investigation of suspicious fires is the second major activity of the Division. The purpose is to secure evidence which will convict firebugs. This is not always possible, but we find that a thorough investigation, even though a conviction does not result, has a wholesome moral effect in a community and is a powerful deterrent to further incendiary fires.

The statistical record of fire investigations for the year is as follows:

Number of investigations open July 1, 1927.....	335
Number of new investigations assigned.....	468
Number of investigations closed.....	560
Number of cases open for further investigation June 30, 1928.....	243
Number of arrests.....	39
Number of indictments returned.....	32
Number of "no true bills" returned.....	11
Number of indictments <i>nolle prossed</i>	4
Number found guilty.....	9
Number found not guilty.....	3
Number of cases dismissed.....	4
Number of cases jury disagreed and dismissed.....	1
Number of cases grand jury took no action.....	1
Number of cases grand jury returned no indictments.....	1
Number of cases stricken from docket.....	1

For a number of years incendiary fires have been conspicuous by showing an increase. This was particularly true during the deflation periods after the war. We feel that there has been some abatement the last year or two. Nevertheless, when business conditions or the employment situation become serious, we always find an increase in fires of this type, the motive being a desire to turn assets into cash by collecting fire insurance.

Crooked fires have also had their place in the general wave of lawlessness with which we have been afflicted in this age of jazz and disrespect for law. We find here and there evidences of the work of professionals, who make it their business to burn property after securing a surplus of insurance.

During the past year special attention has been devoted to investigation work. Deputies have been kept on cases until they have exhausted every possibility of the investigation.

In the eastern part of the State a firebug carefully removed and secreted the family's most valued belongings, then set the fire. A tireless investigator unearthed the hidden goods and built up a good case, whereupon the suspect promptly confessed and begged for mercy.

In Southern Illinois a thief robbed a hardware store and then set a fire to cover up the crime. The fire did not get a good start and burned itself out. A slip of paper bearing a name was found and by means of this the suspect was rounded up, confessed and went to the penitentiary.

These cases are typical of our investigation work.

One large city in the State has had such an unfavorable loss ratio that insurance companies a few years ago threatened drastic action. In the background were many losses of a decidedly suspicious nature, with not a prosecution in several years. The Division went after all losses of a suspicious tint in this city, made thorough investigations and took the evidence of the State's attorney. While no cases have yet been tried, several are in prospect. The fire loss in this city this year has been cut to a fraction of the average annual loss for the last five years. This shows what real investigations will do.

FIREMEN'S SHORT COURSE.

The Fourth Short Course on Fire Prevention, Control and Extinguishment, held at the University of Illinois June 19, 20, 21 and 22, was the most successful to date, both as to attendance and program. The training tower, for which the last legislature provided funds, was ready for use and permitted the holding of demonstrations on every phase of fire department work and life saving. Demonstrations were put on by a picked drill team from the Chicago Fire College. There was also a demonstration of automatic sprinklers.

The purpose of the course, which was founded by joint efforts of the Division of Fire Prevention and the Illinois Firemen's Association, is to bring together firemen, fire officials and all others interested in the fire problem for the purpose of practical, intensive instruction in all phases of the problem. We feel that the instruction and experience will enable local communities to cut their fire losses.

Heretofore the program has consisted largely of addresses, but this year we stressed the practical side, yet balanced the program so that there would be about all the instruction which those present could hope to absorb in four days.

Representatives were present from other states which contemplate similar courses and those on the program included conspicuous authorities of national note in their lines.

FIRE PREVENTION WEEK.

Progress in fire prevention can come only through applied efforts every day in the year. Yet by devoting one week especially to fire prevention, we serve to concentrate public attention on the subject for at least seven days and seek to arouse an interest which will stimulate activity for the balance of the year.

Fire Prevention Week in 1927 was observed October 9 to 15 in State and Nation. It was heralded by a proclamation by the President of the United States and by proclamation by the Governor of this and other States.

Following our usual custom, we distributed copies of our Governor's proclamation and of attractive posters throughout the State. Public addresses were made in many communities by the Fire Marshal and newspaper publicity was freely resorted to.

Special attention was given to the schools, because the greatest hope for future success lies in arousing the interest of the school children. Literature and posters were provided for every school house.

Civic organizations again cooperated whole-heartedly in making a success of Fire Prevention Week.

DEATHS AND INJURIES.

The law does not provide for the reporting of casualties, but the Division collects such information as it can through press clippings and what reports we can secure. The record last year was:

	Babes and children.	Youths and middle aged.	Aged persons.	Total.
DEATHS.				
Male.....	10	39	8	57
Female.....	25	32	9	66
Total deaths.....	35	71	17	123
INJURIES.				
Male.....	7	69	2	78
Female.....	18	55	1	74
Total injuries.....	25	124	3	152
Total dead and injured.....	60	195	20	275

Casualties, like property damage, are due largely to carelessness and it is deplorable that so many should suffer loss of life or injury needlessly. Some of the main causes of the human toll are: use of gasoline

or naphtha for dry cleaning in the home; use of kerosene to start or hurry fires; clothing igniting from matches, open flames or bonfires; smoking or striking matches around the gas tank or carburetor of an automobile, especially while gas tank is being filled; use of polishes containing volatile agents. Of course many deaths and injuries occur in burning buildings, but fully as many, if not more, occur as a result of the causes enumerated and similar ones. A strenuous campaign of education, especially in the schools, seems to be the only way to reach the problem.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1927, TO JUNE 30, 1928.

Total value of buildings in which fires have occurred.....	\$	*332,322,890
Total damage to said buildings.....		*12,157,565
Total insurance on said buildings.....		*233,882,647
Total value of personal property jeopardized by fire.....		*77,111,143
Total damage to said personal property.....		*8,757,699
Total insurance on said personal property.....		*57,595,989
Total fire loss in the entire State of Illinois (except June loss, Chicago)		*20,915,264
June loss, city of Chicago.....		713,921
Total fire loss in the entire State of Illinois.....		21,629,185
Total number of fires in the entire State of Illinois.....		19,268

* Figures for city of Chicago for June, 1928, not included.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1927, TO JUNE 30, 1928.

Total value of buildings in which fires have occurred.....	\$	71,544,565
Total damage to said buildings.....		9,370,825
Total insurance on said buildings.....		40,079,222
Total value of personal property jeopardized by fire.....		21,140,813
Total damage to said personal property.....		5,184,769
Total insurance on said personal property.....		11,593,334
Total fire loss outside the city of Chicago.....		14,555,594
Total number of fires outside the city of Chicago.....		10,375

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1927, TO JUNE 30, 1928.

Total value of buildings in which fires have occurred.....	\$	*260,778,325
Total damage to said buildings.....		*2,786,740
Total insurance on said buildings.....		*193,803,425
Total value of personal property jeopardized by fire.....		*55,970,325
Total damage to said personal property.....		*3,572,930
Total insurance on said personal property.....		*46,002,655
Total fire loss in the city of Chicago (except June loss).....		*6,359,670
June loss, city of Chicago.....		713,921
Total fire loss in the City of Chicago.....		7,073,591
Total number of fires in the city of Chicago.....		8,893

* Figures for June, 1928, not included.

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1927, TO JUNE 30, 1928.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1927			1928		
July.....	1,548	\$1,535,699	January.....	2,242	\$2,343,350
August.....	1,169	1,963,366	February.....	1,766	1,841,293
September.....	1,340	2,335,086	March.....	2,174	1,964,371
October.....	1,313	1,353,176	April.....	1,856	1,487,630
November.....	1,341	1,060,346	May.....	1,826	1,856,586
December.....	2,195	2,425,832	June*.....	498	1,462,450
			Total.....	19,268	\$21,629,185

* Number of fires in City of Chicago not included.

NUMBER OF FIRES AND THE LOSS THEREFROM OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1927, TO JUNE 30, 1928.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1927			1928		
July.....	686	\$1,034,954	January.....	1,230	\$1,493,340
August.....	512	985,236	February.....	1,034	1,503,183
September.....	654	1,866,876	March.....	1,330	1,351,381
October.....	602	1,021,951	April.....	1,067	1,101,320
November.....	658	691,441	May.....	957	1,404,956
December.....	1,147	1,352,427	June.....	498	748,529
			Total.....	10,375	\$14,555,594

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1927, TO JUNE 30, 1928.

Month.	Number of fires.	Fire loss.	Month.	Number of fires.	Fire loss.
1927			1928		
July.....	862	\$ 500,745	January.....	1,012	\$350,010
August.....	657	978,130	February.....	732	338,110
September.....	686	468,210	March.....	844	612,990
October.....	711	331,225	April.....	789	386,310
November.....	683	368,905	May.....	869	451,630
December.....	1,048	1,073,405	June.....	*	713,921
			Total.....	8,893	\$7,073,591

* Number of fires for June, 1928, not reported.

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY 1, 1927, TO JUNE 30, 1928.

Cause.	Number.	Damage
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,122	\$1,035,589
Conflagrations.....		
Electricity (except electric irons and similar small devices).....	1,687	1,273,871
Explosions.....	547	585,439
Exposure.....	872	738,324
Fireworks, firecrackers, balloons, etc.....	62	15,396
Friction, sparks occasioned by running machinery.....	89	16,619
Gas, natural and artificial.....	115	65,516
Hot ashes and coals, open fires.....	265	34,345
Hot grease, oil, tar, wax, asphalt (ignition of).....	97	35,732
Hot irons, including electric devices.....	198	50,417
Incendiarism.....	213	317,776
Lightning—buildings rodde.....	1	250
Lightning—buildings not rodde.....	287	670,687
Matches, smoking.....	2,798	772,139
Miscellaneous—cause known, but not classified.....	180	121,514
Open lights.....	279	309,207
Petroleum and its products.....	1,001	402,785
Rubbish and litter.....	838	368,751
Sparks arising from combustion.....	349	160,573
Sparks on roofs.....	3,434	1,216,818
Spontaneous combustion.....	641	831,978
Steam and hot water pipes.....	26	5,645
Stoves, furnaces, boilers and their pipes.....	1,347	1,017,507
Unknown.....	2,710	9,927,651
Unknown origin, but investigation important.....	110	940,735
Total.....	19,268	\$20,915,264
Chicago loss for June, not classified.....		713,921
Total fire loss.....		\$21,629,185

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1927, TO JUNE 30, 1928.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,663	\$ 976,295
Amphitheatres, grandstands, etc.....		
Bakeries.....	45	39,333
Barber shops.....	51	31,386
Barns and stables (not liveryes).....	884	1,602,583
Churches.....	69	331,092
Depots, stations, waiting rooms, etc.....	27	47,790
Dry cleaning establishments.....	35	25,378
Dry houses, kilns, rooms, etc.....	7	606,840
Dwellings.....	7,327	4,987,941
Elevators and grain warehouses.....	29	429,080
Factories.....	413	2,411,541
Foundries.....	45	849,409
Garages.....	1,106	826,864
Granaries.....	48	68,035
Greenhouses.....	6	2,107
Halls (lodge) (club) (dance) (public), etc.....	102	163,984
Hotels and boarding houses.....	126	153,232
Hospitals.....	15	16,317
Ice houses.....	14	28,855
Jails.....	3	452
Laundries.....	43	68,710
Liveryes.....	1	300
Mills (flour).....	2	400
Mills (saw and planing).....	8	3,950
Office buildings.....	151	136,280
Oil houses.....	55	89,204
Photo studios.....	6	1,285
Power houses, pump houses and engine houses.....	35	29,637
Restaurants.....	190	170,302
Saloons.....	4	5,200
Sheds.....	976	172,063
Smoke houses.....	35	6,015
Silos.....	8	4,100
Stores.....	2,010	3,965,519
Shops (carpenter, blacksmith, etc.).....	120	139,375
Schools (colleges, seminaries, etc.).....	83	526,289
Theatres and motion picture houses.....	34	139,209
Warehouses.....	151	1,057,435
Miscellaneous.....	171	156,110

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1927, TO JUNE 30, 1928—Concluded.

Class of property.	Number.	Damage.
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,797	\$183,167
Boats.....	13	12,035
Bridges.....	2	35
Cars (railway) (electric), etc.....	145	57,841
Docks (coal), etc.....	5	9,215
Fences.....	33	546
Grain and hay.....	61	105,477
Junk yards.....	30	13,268
Lumber yards.....	27	248,010
Tanks (water), etc.....	4	1,000
Tents.....	6	2,823
Threshing outfits.....	2	2,100
Trestles.....	4	8,500
Wagons.....	41	1,350
Total.....	19,268	\$20,915,264
Chicago loss for June, not classified.....		713,921
Total loss.....		\$21,629,185

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF
ILLINOIS, JULY 1, 1927, TO JUNE 30, 1928.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	192	\$ 485,957	Livingston.....	90	\$ 90,069
Alexander.....	56	96,418	Logan.....	77	65,131
Bond.....	32	40,995	Macon.....	143	324,964
Boone.....	25	22,080	Macoupin.....	105	213,961
Brown.....	25	32,435	Madison.....	359	498,642
Bureau.....	79	49,511	Marion.....	105	65,474
Calhoun.....			Marshall.....	18	46,711
Carroll.....	43	21,977	Mason.....	36	39,915
Cass.....	41	75,110	Massac.....	39	27,058
Champaign.....	256	288,280	McDonough.....	74	156,419
Christian.....	78	106,772	McHenry.....	74	200,650
Clark.....	47	46,381	McLean.....	210	321,407
Clay.....	28	29,104	Menard.....	19	6,630
Clinton.....	48	113,150	Mercer.....	31	60,973
Coles.....	180	96,957	Monroe.....	4	8,200
Cook.....	9,747	8,381,734	Montgomery.....	82	118,435
Crawford.....	39	48,768	Morgan.....	120	80,042
Cumberland.....	42	53,951	Moultrie.....	24	78,452
DeKalb.....	94	170,226	Ogle.....	62	215,015
DeWitt.....	57	88,032	Peoria.....	465	352,559
Douglas.....	44	61,092	Perry.....	105	80,319
DuPage.....	75	126,331	Piatt.....	28	23,077
Edgar.....	86	78,035	Pike.....	51	118,670
Edwards.....	4	6,826	Pope.....	6	5,600
Effingham.....	37	31,765	Pulaski.....	9	6,125
Fayette.....	51	46,871	Putnam.....	7	3,165
Ford.....	30	47,660	Randolph.....	18	15,445
Franklin.....	133	251,347	Richland.....	33	26,452
Fulton.....	147	144,598	Rock Island.....	421	249,045
Gallatin.....	19	22,458	Saline.....	168	226,657
Greene.....	57	40,117	Sangamon.....	377	392,871
Grundy.....	16	44,874	Schuyler.....	25	25,732
Hamilton.....	33	29,045	Scott.....	30	123,347
Hancock.....	94	250,732	Shelby.....	58	64,645
Hardin.....			Stark.....	21	161,432
Henderson.....	9	20,820	St. Clair.....	582	1,267,484
Henry.....	149	137,874	Stephenson.....	48	229,147
Iroquois.....	63	105,246	Tazewell.....	68	182,129
Jackson.....	139	126,858	Union.....	88	197,440
Jasper.....	63	78,290	Vermilion.....	260	251,708
Jefferson.....	98	84,142	Wabash.....	55	54,488
Jersey.....	13	14,800	Warren.....	79	62,113
Jo Daviess.....	38	57,494	Washington.....	14	20,949
Johnson.....	2	1,200	Wayne.....	38	26,333
Kane.....	306	185,311	White.....	44	121,135
Kankakee.....	72	36,065	Whiteside.....	183	363,238
Kendall.....	20	31,193	Will.....	206	580,970
Knox.....	199	122,951	Williamson.....	194	217,536
Lake.....	262	415,076	Winnebago.....	177	312,021
LaSalle.....	221	178,813	Woodford.....	17	29,647
Lawrence.....	61	39,656			
Lee.....	71	154,190	Total.....	19,268	\$21,629,185

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THIRTEENTH ANNUAL REPORT

OF

THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1929

TO

June 30, 1930

THE LIBRARY OF THE
JUL 20 1932
UNIVERSITY OF ILLINOIS



LOUIS L. EMMERSON, Governor

LEO H. LOWE, Director

S. L. LEGREID, Fire Marshal

[Reprinted from the Thirteenth Administrative Report. Printed by Authority
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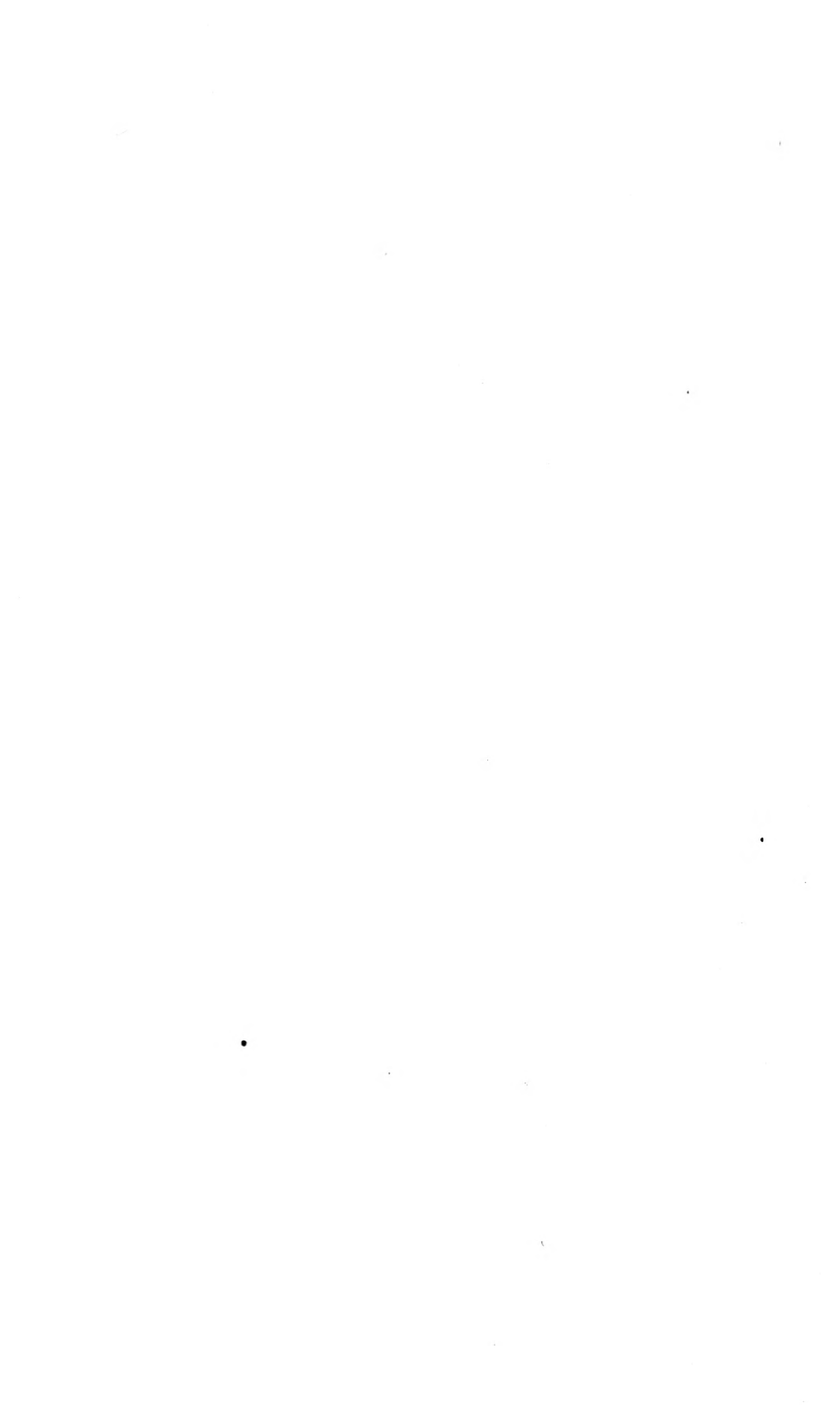
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ILLINOIS STATE JOURNAL CO.
SPRINGFIELD, ILLINOIS
1930

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FIRE PREVENTION.

S. L. LEGREID, *Fire Marshal.*

Considering the fact that 75 to 90 per cent of all fires are preventable through exercise of ordinary care, the fire loss of State and nation is a serious indictment of our citizenship. If we had been going along with a nominal loss for a period of years and the national total suddenly leaped to our customary annual figure of a half billion dollars, there would be flaring headlines in the newspapers and plenty of editorial comment. But the story is "old stuff" to the editors. The fire loss has been going on at such a tremendous rate for so many years that the public is calloused to it. The average citizen is not interested until his own home is laid in ashes or some dear one burned to death or maimed.

The general apathy to the peril of fire is best illustrated by the personal chances so many people take with hazards which produce the most agonizing kind of injury or death. Despite a record of thousands of fatalities, to which each week brings a substantial addition, people continue to risk life and limb by reckless handling of gasoline and volatile oils. The practice of using kerosene to start or hurry fires is still general, although the frequent result is a kick-back and explosion. Many women still persist in doing dry cleaning at home, saturating the house with volatile gas which awaits only the slightest spark to touch it off. This spark may be produced by static electricity generated by friction in rubbing or dipping the garments, particularly if they are silk or woolen. Men still smoke or strike matches while working around the carburetors of their cars, or use the flare of a lighted match to peer into gasoline tank or alcohol laden radiator.

A total of 417 deaths by burning in Illinois in 1929, as shown by the Division of Vital Statistics of the Department of Public Health, is a startling record, but it is only one more than in the previous year. Of the 1929 casualties, 140 occurred in burning buildings and 277 otherwise. Personal injury from fire is not necessarily linked up with burning buildings and is caused more often by personal chances taken with common or special hazards.

Parenthetically it may be stated that there were more than 50 deaths last year in Illinois from carbon monoxide gas in closed buildings. Oblivious to all warnings, motorists will warm up their cars in closed garages during the winter and remain in the buildings during the process. This is just another example of the type of human carelessness which must be overcome before there can be substantial progress in solving the fire problem.

The wealth destroyed by fire each year, if put to constructive use, would finance a stupendous program of public works. In one year and four months the national loss would pay for the Mississippi Valley flood

control and the Great Lakes-Atlantic deep waterway, the combined estimate for which is \$652,000,000. This without any necessity for special taxation, or interest on bonds. The Illinois loss, approximating \$2,000,000 a month, would support an impressive program of hospital or schoolhouse construction, good roads or other projects.

Insurance pays the bill, largely, but the question is not one of money. Our wealth lies in our resources. Money is merely the medium which measures it. Property wiped out by fire impoverishes our resources by just that amount. Labor and materials which go into replacement could be devoted otherwise to further construction work.

The fire problem therefore is one of conservation of resources, fully as important as any of the other phases of our conservation program. Only a nation so young and rich in natural resources as America could have stood the drain so long. We can not stand it indefinitely and a practical program must be developed which will meet the situation.

It has been well said that it is the personal responsibility of everyone to prevent fire. It is also a community responsibility. Recognition and discharge of this responsibility by the communities of the State hold the key to the program which will bring about a permanent reduction in the fire waste. It can not be accomplished by the local governing bodies alone, nor by the civic, industrial and business forces acting separately. It must be by the organized cooperation of all of them, powered by a coercive public opinion which itself can be generated only by such a campaign. The plan is not entirely new. It has been tried and with marked success. It should be organized along the following lines:

1. Organization of a permanent fire prevention committee to sponsor and back the campaign. Its personnel should come from city officials, civic clubs, industries, business and insurance interests. It should be large enough to have members from all representative industries and business houses, so that qualified subcommittees may function as to the special hazards and problems of the various types of factories and commercial enterprise in the city.

2. Creation of a city fire prevention bureau, required to maintain systematic and continuous inspection of property and with ample authority to enforce orders in the interest of fire safety.

3. Revision of ordinances so as to create an up-to-date building and fire code, with provision for rigid enforcement.

4. Organization of fire brigades and fire drills in schools, theatres, hotels, stores and factories.

5. Periodic lectures before civic bodies, schools, women's clubs, employees and other groups.

6. Regular bulletins to factories and stores, with special bulletins from time to time on the special hazards of any particular group.

7. An annual home and yard beautification contest to reduce residence losses.

8. Open letters to the public on special hazards, such as dry cleaning fluids, careless use of gasoline and kerosene, tampering with electrical installations, etc.

9. Sponsoring of necessary improvements in municipal fire protection and water supply.

A committee drawn from the sources indicated will represent a great majority of the property values of the city and, if guided by the proper leadership, will put over any program undertaken. A program such as outlined is bound to show an immediate and substantial reduction in fire losses and is likely to make a fire preventionist out of every citizen.

To encourage the adoption of such activities in the municipalities of the State is something which the department should undertake as one of its major activities just as soon as facilities will permit.

THE YEAR IN REVIEW.

At the opening of the year the division consisted of a skeleton office force and two field men, due to the retrenchment program adopted several months previously. In August, 1929, the work of building up the personnel was begun and we now have a field force of 28 men, filling all of the positions provided for in our appropriations.

A radical change was made in our plan of organization. Before any appointments were made, the State was divided into districts of several counties each. In each district a resident deputy was appointed. Each deputy is charged with responsibility for conditions in his district. It is his duty, when not engaged in arson investigations, to keep property in his district under inspection and to follow up orders until they are complied with. One copy of each order is forwarded to the office. A second copy is retained by the deputy until he can show a compliance, whereupon it is sent to the office and the file is closed.

The plan of fixing responsibility is necessary in order to secure results, but it is only fair to say that generally speaking we have secured a high class of men who not only seem willing to assume responsibility, but eager to discharge it.

Another change in organization method is that all deputies are required to investigate fires. Previously a small group of deputies investigated fires exclusively and the balance devoted their time to inspections. Investigations are emergencies which can not wait and the purpose of the change is to throw the entire resources of the division into the war on arson whenever occasion demands. The first call on a deputy's time is investigation work. When not so engaged he resumes inspection activities.

THE ARSON SITUATION.

We were confronted with a situation at the outset, which still exists, which demonstrated the wisdom of the latter change. Business depression has been serious and the wave of suspicious fires which always accompanies such periods has taxed our resources to the utmost. The way some of our green deputies took hold and developed under these critical conditions is a source of great satisfaction. Some of the conspicuous results were secured by new men, hitherto untrained as investigators.

Investigations assigned during the year aggregated 495. Forty-two were carried over from the previous year, making a total of 537 cases handled by 28 men. The average is better than ten a week. Some of the investigations were extensive, requiring the services of more than

one deputy to check the various ramifications and extending sometimes over several weeks. The volume of work done is apparent.

Three hundred and forty-five cases were closed, leaving 192 open at the close of the year.

The net result of criminal actions instituted is shown by the following tabulation:

Arrests	52
Indictments	41
Found guilty	29
Found not guilty	5
Dismissed	6
Stricken from docket	2
No true bills returned	8
Indictments nol-prossed	2

The number of convictions is considerably larger than showings in any recent years. Convictions were registered in every month save August, September, October and December. May holds the record with eight and November was next with seven.

The majority of incendiary fires are set for the purpose of collecting insurance. Some, however, are set by mentally unbalanced persons and pyromaniacs. One of the most important apprehensions of a pyromaniac in the history of the department was made in April. It ended a trail of mysterious fires which had baffled the department and the authorities of two cities for several months. The culprit, if one mentally deranged may be called such, confessed to nine fires in one city and seven in the other. He said he could not resist a desire to set fires and was sorry immediately thereafter, but that the passion for burning soon possessed his again. Incidentally he confessed to setting fire to a lodging house in another state. This illustrates his menace to society and the importance of his capture. He was sentenced to the penitentiary for the criminally insane at Chester.

One of similar mental trend was captured after setting several fires at one of our large universities. He was sentenced to Chester also.

An interesting case is presented by a young woman stenographer, whose arrest followed a mysterious series of fires in a large stove factory. No suspicion was directed toward her until just prior to her arrest, but once in custody she admitted most of the fires. In several instances they were set to cover petty thievery. She is under indictment both for arson and embezzlement.

Tragedy sometimes lurks in the wake of arson. One man committed suicide on the eve of his trial rather than face an almost certain sentence to the penitentiary for hiring a professional firebug to set fire to his store. The firebug was badly burned in making the touch-off and his sweetheart is said to have taken her life because of grief over his disfigurement.

Unique methods are sometimes used in setting fires. In a case now pending, an attachment was rigged up to an alarm clock in such a way as to short circuit two electric wires at a certain hour.

Diligence of a night policeman uncovered an extensive arson "plant" just in time to prevent a fire, which would have threatened the business district in a small community. Loose papers and containers of inflammable liquids had been arranged in conflagration order. A lighted

candle had burned almost to the point where it would touch off the pile when the policeman, finding the front door unlocked, entered.

Investigation of a piano factory blaze revealed that a piano box had been used to transport a number of large glass bottles of gasoline to the building. The gasoline was spread around after all had left the factory and ignited.

Gasoline cans played an important part in solving a typical business fire. A bankrupt stock failed to move and a fire was planned. Portions of joists were sawed out and cans of gasoline hidden in the openings thus created until the time set for the fire. After the fire was lighted, the empty cans were hauled to a country schoolhouse and secreted. Here they were found after an accomplice had made some admissions. They helped materially in convicting the proprietor of the store.

A small wave of schoolhouse fires gave the division some interesting work among boys. In three cases the boys set fire to the buildings with the idea of avoiding school attendance. Five boys figured in one case, and some had records which caused them to be sent to the St. Charles School for Boys.

In some cases the division has consented to placing defendants on probation, particularly in first offenses where circumstances warranted such disposition. In a few instances commitments were made to State hospitals.

Our policy has been to investigate every case to the last possibility and to use every resource to punish the guilty. Unable to secure sufficient evidence to prosecute successfully under the arson code, we went into the Federal Court in one case and secured indictments for using the mails to defraud an insurance company. A proof of loss, alleged to have been considerably inflated, was sent through the mail.

Charged with a criminal offense in another state, two young men set up the alibi that they were in Illinois at the time and when pressed for information as to their movements, admitted that they were here for the purpose of setting a fire. After a quick investigation, we extradited them and they now are held to the grand jury.

ARSON SQUADS.

Local arson squads are a cooperating arm of our investigation activities in all communities of any size in the State. The purpose is to create an agency which will make an immediate investigation of every questionable fire. The importance of such an agency is twofold:

First, it can gather and preserve important evidence, pending the arrival of one of our investigators and can assist our man in the investigation.

Second, it can dispose of numerous cases which develop no promising evidence, relieving us of sending in a man. Thus we can concentrate on the more important investigations.

A live arson squad has still a more far-reaching effect. It sets up the fear of an immediate and searching investigation of every questionable fire and thus discourages the crime in the community.

The skeleton organization of an arson squad consists of a representative each from the fire and police departments, plus an outstanding civic

leader. This organization may be expanded to meet the needs of any community.

The idea is new and it will take some time to develop efficient local squads, but we have had very helpful assistance from some of them. In fact, evidence gathered in a number of instances by these groups has helped materially in making cases.

INSPECTION ACTIVITIES.

Inspections necessarily have been curtailed by press of investigation work, but a total of 3,686 inspections was recorded. This includes return visits, or rechecks, for the purpose of checking up on orders issued. It includes also inspections of property where conditions warranted no order.

Under the law, orders are written for the removal of fire hazards or unsafe conditions. Usually 30 days is given for compliance. The law provides for a fine for non-compliance, but our policy has been to avoid court action if possible and secure results by winning the cooperation of the individual. Out of 701 compliances recorded, only three court actions appear.

The law provides for an appeal to the department if a person feels an order unjust, and for a further appeal to the County Court. Few appeals have been taken and all of these have been handled by the department to the satisfaction both of the department and the individual. A property owner usually is willing to comply with an order if convinced of its fairness.

During the year the division secured the removal of 19 buildings. These buildings are typical of a class of dilapidated frame structures, the heritage of early days. Every community has some such buildings. Usually they have outlived their usefulness and have deteriorated into a condition almost beyond repair. They serve no useful purpose and are subject to be entered at will by children or intruders and always are a serious fire hazard to the neighborhood in which they are located. Every such building removed not only eliminates the hazard, but usually makes way for a sightly, modern structure which tones up values in the immediate vicinity.

In last year's report mention was made of the Supreme Court decision which held that the department had exclusive jurisdiction over the regulation of gasoline and volatile oils, except only in cities or villages which on July 1, 1919 had a regulatory ordinance in effect. Relatively few cities had such an ordinance and the division has faced an enormous volume of work in passing upon plans for the installation of bulk storage and filling stations throughout the State. In handling this particular problem we have felt our responsibility in safeguarding life as well as property. With this in mind our oil rules were revised as of February 25, 1930 and we now impose certain restrictions as to the clearances between underground storage tanks and such classes of property as schools, hospitals, churches, public halls, theatres, hotels, lodging houses, city, village and town halls, fire stations, light and power plants, commercial gas tanks, factories, and dry cleaning plants.

The tremendous development of the commercial end of the oil business has made competition very keen for desirable locations for filling stations. Many of such sites are dangerously near the classes of property enumerated and we felt it was time to take action to protect the lives which would be endangered should there be a fire or explosion at a filling station.

Similar restrictions are in effect with reference to above ground bulk storage tanks, but they apply to fewer classes of property. These bulk stations usually are installed in outlying sections of a city where they are more or less isolated. We have had wonderful cooperation from most of the oil companies in enforcing these rules and the cooperation will increase as the industry in general is more thoroughly educated.

The drive for schoolhouse safety has been continued and a great deal of work will be done this summer throughout the state in complying with our orders before the fall term opens. We also have continued the campaign to make safe all buildings where there is life hazard and are giving special attention to the enforcement of the fire escape statute.

We hope that the wave of incendiary fires will soon subside so that we may make a more intensive campaign on inspection work. We are particularly trying to build up more cooperation on the part of local officials to help us in keeping their communities free from hazards during the intervals between inspection by our deputies.

FIREMEN'S SHORT COURSE.

The Sixth Short Course on Fire Prevention, Control and Extinction was held at the University of Illinois, June 17 to 20 inclusive. Interest is growing in this course year by year and it has become an institution to which local fire authorities, city officials and private industries look forward each year with increasing interest. The program this year again was built upon practical lines and those in charge of the various topics and demonstrations measured up to the high standards which have been set by preceding courses.

Illinois was the first state to establish such a course. Numerous other states have adopted the idea within the last few years and the leading magazines on fire protection are advocating adoption in every state in the union.

There is no question but that the state owes it to the various communities to provide a place for practical instruction in all of the essential features of the fire problem, as it enables the local communities to keep abreast of the times in controlling fire waste.

EDUCATION AND PUBLICITY.

A program along this line has been carried out through public addresses, newspaper and magazine publicity and a generous distribution of pamphlets and bulletins. More interest than hitherto is being taken in fire prevention work by civic clubs, women's clubs and the schools. We concentrate more particularly on publicity and education during fire prevention week, which during the last fiscal year was observed from October 6 to 12 inclusive. Forty thousand copies of an attractive poster in two colors were distributed, together with 30,000 copies of the

Governor's Fire Prevention Week proclamation. Distribution was planned to reach every schoolhouse in the State, both city and rural, besides every crossroads hamlet. Fire prevention meetings were held generously throughout the State and representatives of this office addressed as many of them as physically possible.

We also maintained our usual exhibit at the State Fair and this year we are putting out exhibits in each of the county fair circuits. This latter exhibit will be unique in depicting some of the striking causes of fire and special cards on fire hazards will be distributed. These cards are arranged so they may be hung up handily in the home and they enumerate briefly and interestingly all of the common causes of fire.

LOSS RECORD TABULATED.

The fire loss in Illinois by fiscal years since the departmental reorganization under the Civil Administrative Code is as follows:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1929 TO JUNE 30, 1930.

Total value of buildings in which fires have occurred.....	\$82,557,144
Total damage to said buildings.....	8,117,676
Total insurance on said buildings.....	46,000,311
Total value of personal property jeopardized by fire.....	28,899,890
Total damage to said personal property.....	4,198,376
Total insurance on said personal property.....	16,982,468
Total fire loss outside the city of Chicago.....	12,316,052
Total number of fires outside the city of Chicago.....	9,432

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS OUTSIDE THE CITY OF CHICAGO FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1929, TO JUNE 30, 1930.

Month.	Number fires.	Fire loss.	Month.	Number fires.	Fire loss.
1929			1930		
July.....	495	\$ 629,028	January.....	993	\$1,362,069
August.....	556	711,104	February.....	912	1,110,405
September.....	563	577,792	March.....	1,242	1,255,629
October.....	572	760,269	April.....	1,138	1,429,483
November.....	878	1,474,972	May.....	689	935,573
December.....	787	1,390,541	June.....	607	679,187
			Total.....	9,432	\$12,316,052

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, STATE OF ILLINOIS, OUTSIDE CITY OF CHICAGO, JULY 1, 1929, TO JUNE 30, 1930.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	677	\$ 817,107
Conflagrations.....	2	51,684
Electricity (except electric irons and similar small devices).....	695	518,823
Explosions.....	275	349,135
Exposure.....	419	395,665
Fireworks, firecrackers, balloons, etc.....	20	4,559
Friction, sparks occasioned by running machinery.....	41	36,725
Gas, natural and artificial.....	48	10,767
Hot ashes and coals, open fires.....	146	44,384
Hot grease, oil, tar, wax, asphalt (ignition of).....	70	48,988
Hot irons, including electric devices.....	91	78,321
Incendiarism.....	134	347,434
Lightning—buildings rodded.....	166	305,313
Lightning—buildings not rodded.....	575	486,028
Matches, smoking.....	290	282,346
Miscellaneous—cause known, but not classified.....	137	156,898
Open lights.....	232	158,061
Petroleum and its products.....	384	186,908
Rubbish and litter.....	36	25,827
Sparks—arising from combustion.....	2,122	935,478
Sparks—on roofs.....	235	771,275
Spontaneous combustion.....		
Steam and hot water pipes.....	709	1,061,035
Stoves, furnaces, boilers and their pipes.....	1,907	5,163,216
Unknown.....	21	80,075
Unknown origin, but investigation important.....		
Total.....	9,432	\$12,316,052

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, STATE OF ILLINOIS, OUTSIDE THE
CITY OF CHICAGO, JULY 1, 1929, TO JUNE 30, 1930.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	227	\$ 122,333
Amphitheatres, grandstands, etc.....	3	175,029
Bakeries.....	23	52,356
Barber shops.....	9	5,720
Barns and stables (not liveryes).....	716	1,207,278
Churches.....	33	135,328
Depots, stations, waiting rooms, etc.....	5	525
Dry cleaning establishments.....	21	5,355
Dry houses, kilns, rooms, etc.....		
Dwellings.....	4,604	4,604,253
Elevators and grain warehouses.....	21	60,218
Factories.....	93	931,282
Foundries.....	13	24,855
Garages.....	579	678,365
Granaries.....	51	67,249
Greenhouses.....	7	62,290
Halls (lodge) (club) (dance) (public), etc.....	70	105,384
Hotels and boarding houses.....	65	69,237
Hospitals.....	7	34,765
Ice houses.....	7	8,110
Jails.....	1	700
Laundries.....	16	4,700
Liveries.....		
Mills (flour).....	4	9,610
Mills (saw and planing).....	4	6,775
Office buildings.....	142	173,981
Oil houses.....	18	13,725
Photo studios.....		
Power houses, pump houses and engine houses.....	11	54,447
Restaurants.....	82	123,511
Saloons.....		
Sheds.....	430	144,023
Smoke houses.....	53	4,425
Silos.....	19	13,196
Stores.....	544	1,386,838
Shops (carpenter, blacksmith, etc.).....	74	187,906
Schools (colleges, seminaries, etc.).....	56	487,848
Theatres and motion picture houses.....	21	227,860
Warehouses.....	70	140,807
Miscellaneous.....	403	547,177
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	740	137,938
Boats.....	6	32,145
Bridges.....	2	270
Cars (railway) (electric), etc.....	76	49,237
Docks (coal), etc.....		
Fences.....	26	1,618
Grain and hay.....	45	3,580
Junk yards.....	10	27,801
Lumber yards.....	13	179,575
Tanks (water), etc.....	5	5,027
Tents.....	6	170
Threshing outfits.....		
Trestles.....	1	330
Wagons.....		
Total.....	9,432	\$12,316,052

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS, OUTSIDE THE CITY OF CHICAGO, JULY 1, 1929, TO JUNE 30, 1930.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	104	\$ 57,238	Livingston.....	113	\$174,781
Alexander.....	29	36,680	Logan.....	88	117,268
Bond.....	25	22,210	Macon.....	199	87,523
Boone.....	20	52,096	Macoupin.....	84	95,595
Brown.....	5	3,915	Madison.....	325	457,190
Bureau.....	96	83,322	Marion.....	81	55,320
Calhoun.....			Marshall.....	17	14,015
Carroll.....	36	31,280	Mason.....	29	51,379
Cass.....	40	42,089	Massac.....	28	39,703
Champaign.....	214	146,435	McDonough.....	113	106,738
Christian.....	51	63,331	McHenry.....	54	171,159
Clark.....	55	50,011	McLean.....	158	212,339
Clay.....	13	21,955	Menard.....	11	15,470
Clinton.....	30	29,785	Mercer.....	35	71,466
Coles.....	196	166,250	Monroe.....	8	22,220
Cook.....	973	1,999,852	Montgomery.....	63	100,897
Crawford.....	38	34,440	Morgan.....	105	121,250
Cumberland.....	32	46,834	Moultrie.....	23	62,655
DeKalb.....	90	161,930	Ogle.....	41	79,475
DeWitt.....	10	14,135	Peoria.....	415	219,414
Douglas.....	52	77,484	Perry.....	62	47,935
DuPage.....	81	181,541	Piatt.....	37	31,118
Edgar.....	86	100,446	Pike.....	57	153,779
Edwards.....	1	2	Pope.....		
Effingham.....	36	14,065	Pulaski.....	12	25,495
Fayette.....	50	108,437	Putnam.....	9	19,354
Ford.....	35	118,515	Randolph.....	21	33,497
Franklin.....	90	308,294	Richland.....	41	22,500
Fulton.....	138	93,417	Rock Island.....	293	165,057
Gallatin.....	17	12,426	Saline.....	69	79,227
Greene.....	34	55,789	Sangamon.....	401	416,799
Grundy.....	24	36,872	Schuyler.....	24	43,513
Hamilton.....	34	83,521	Scott.....	15	20,931
Hancock.....	74	67,884	Shelby.....	80	58,671
Hardin.....	10	2,445	Stark.....	31	76,702
Henderson.....	12	12,230	St. Clair.....	493	446,946
Henry.....	154	141,326	Stephenson.....	40	64,950
Iroquois.....	85	95,554	Tazewell.....	65	120,606
Jackson.....	98	75,475	Union.....	30	27,630
Jasper.....	24	25,143	Vermilion.....	207	271,097
Jefferson.....	96	121,924	Wabash.....	50	50,573
Jersey.....	41	54,453	Warren.....	74	24,698
JoDaviess.....	25	35,746	Washington.....	29	7,155
Johnson.....	2	1,750	Wayne.....	46	58,185
Kane.....	292	413,189	White.....	33	29,274
Kankakee.....	85	101,313	Whiteside.....	137	535,817
Kendall.....	30	26,730	Will.....	206	496,222
Knox.....	206	105,140	Williamson.....	157	183,255
Lake.....	304	321,158	Winnebago.....	146	172,166
LaSalle.....	183	392,553	Woodford.....	13	10,500
Lawrence.....	74	60,620			
Lee.....	34	37,313	Total.....	9,432	\$12,316,052

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FOURTEENTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1930
TO
June 30, 1931



THE LIBRARY OF THE
JUL 20 1932
UNIVERSITY OF ILLINOIS

LOUIS L. EMMERSON, Governor
LEO H. LOWE, Director
S. L. LEGREID, Fire Marshal

[Reprinted from the Fourteenth Administrative Report. Printed by authority of the State of Illinois.]

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DIVISION OF FIRE PREVENTION.

S. L. LEGREID, *Fire Marshal.*

The year has been one of concentrated arson investigation. The division presents a record of 66 convictions, the largest number for a twelve month period in its history.

An outstanding feature is the breaking up of two notorious rings, which had been operating for a number of years. Several members of each ring are serving penitentiary terms. Trials for the balance are pending.

Indictments against ten persons were returned by a special grand jury in Franklin County, following weeks of investigation by deputies of the division into fires over a period of five years. Two members of the gang, accused of being the "torches" who fired the jobs, finally broke down and confessed. Following indictment of themselves and eight others, they pleaded guilty and were given sentences of one to 20 years for arson. A third member stood trial, was found guilty and received the same sentence. The other cases are set for trial at the September term of court.

Two schoolhouses, a lumber yard and a dwelling belonging to the lumber company were conspicuous among the burnings. The gang included an insurance agent, three school board members, a contractor and the owner of a lumber company. The fires occurred in Christopher, Sesser and Coello.

The results of this investigation set a record for the number of persons indicted in a ring investigation, but the record did not stand for long. We were called to Coles County to investigate a garage fire in Charleston and a dwelling fire in Mattoon. Three confessions were secured, implicating more than a score of persons in numerous burnings in Coles County and extending also into Shelby County. All told, 22 were indicted. Six pleaded guilty and received terms of 1 to 10 and 1 to 20 years. Shortly thereafter the Supreme Court held the women's jury law invalid. Women sat on the jury which returned the indictments. The six already sentenced waived objection, but a special grand jury was impaneled to reindict the others.

Trespassing a little beyond the close of the fiscal year covered by this report, five were tried in July, 1931, with these results: two guilty and sentenced, one guilty and granted a new trial, one jury disagreement and one acquittal.

Both in Franklin and Coles counties the investigations cleared up numerous mysterious fires which had baffled authorities for several years.

We feel that we will have little trouble with arson in those sections of the State for some time.

Fire set by inmates during a riot destroyed four dormitories at the Illinois State Farm, Vandalia, May 24, 1931. A deputy was assigned to assist C. J. Metzger, superintendent of the institution, in fixing responsibility. There were approximately 600 inmates, and it was necessary to question most of them. Six finally confessed to burning, three to rioting and four to attempted escape. A special grand jury was impaneled and indicted ten for arson and attempted arson, five for rioting and six for attempted escape. Nine pleaded guilty to attempted arson, five to rioting and five to attempted escape. One elected to stand trial for arson. The court proceedings occurred just after the close of the fiscal year, but are recorded here to show the result of the investigation.

A gang of boys played havoc in McHenry County and terrorized farmers and others by a series of mysterious burnings. Seven were rounded up by the division and have been held to the grand jury. They have been connected with burning three barns, one dwelling, two sheds, and several hay and straw stacks.

Firing of two dwellings, a barn and several box cars landed three in the penitentiary in Vermilion County. One fire was set as an incident to a wild New Year's eve party, supposedly to even up an imaginary grudge. The other fires were of a similar character. All three confessed. One received two sentences of 1 to 20 years, one received three of 1 to 20, 1 to 10 and 1 to 3 years, and the third received two of 1 to 10 and 1 to 3 years. Their zeal to burn property of other persons ought to cool considerably under these sentences.

Murder and arson featured a butcher shop fire in Chicago just before Christmas, 1930. Two children residing upstairs were the victims. Four were arrested the following day and confessed to planning the fire. The proprietor of the shop implicated a fifth person. The case was presented to the grand jury within ten days and all five were held without bond for murder and arson, and conspiracy. One entered a plea of guilty and was given 30 years. Two, including the proprietor, stood trial without a jury and received 40 years. Indictments against the other two were nollied.

Attempted murder figured with arson in another Cook County case. The investigation grew out of fire in a dwelling house, which, it was charged, a woman arranged to have burned in order to cause her husband's death by fire. Disappointed in this, she was said to have planned to have her husband murdered on a subsequent night. She was to pay \$500 after collecting his life insurance. She drove her husband to the appointed place, but police, who were apprised of the plot, intervened. The same night was set for burning an apartment house owned by one of the conspirators. The woman and three men were held under heavy bonds, but rather nominal penalties were imposed when the cases were tried. The woman and one man received 60 days in jail and a

fine of \$50 on pleas of guilty to attempted murder. The same man and one other defendant were given 30 days in jail for conspiracy to commit arson. One was discharged by the judge, who held evidence against him insufficient.

An innocent man was held to the grand jury in Bond County for a farm house fire. A few days later a deputy from this division secured a confession from the real culprit, who pleaded guilty to arson and was given a term of 1 to 20 years after a snappy exhibition of quickly moving justice.

The foregoing are the most interesting cases in a year which has been one of investigation from start to finish. There were pending 192 investigations at the beginning of the year. There were undertaken during the year 852 new ones. We closed 627 cases, leaving 417 open for further investigation.

There are always those who will set fires so as to collect the insurance. In times of business depression the number of such fires always shows a great increase. This no doubt accounts for the tremendous amount of investigation work which has been thrust upon us. Such fires are not all business fires. Unemployment has brought financial difficulties to people in all walks of life and incendiary fires occur in homes and all other classes of property.

We have had the usual percentage of revenge and spite fires and some pyromania, but fires set for the insurance always make up the bulk of incendiary losses.

We have met the increased demands of the arson situation with no increase in our forces or resources. Deputies have coped earnestly with the exigencies of the occasion and have shown a thorough interest in their work. Their willingness and zeal account largely for the success we have had.

State's attorneys are entitled to commendation also. We must rely on them to prosecute cases and their hearty cooperation is necessary for success. We have found most of them to be earnest, willing and determined prosecuting officials.

The new arson law, passed two years ago, has been helpful, as the sliding scale of penalties makes it possible to impose punishment in proportion to the severity of the offense. Juries often were reluctant to convict under the old law, which carried an arbitrary penalty of 1 to 20 years for arson, regardless of the type of property burned.

Our policy is to stay with the investigation of every suspicious fire until every lead has been exhausted. We are determined to show the arsonist that Illinois is not a safe place for the practice of his profession. We believe that the convictions of the year ought to convince him that we mean business.

The tabulated record of investigations was as follows:

Investigations open July 1, 1930.....	192
New investigations assigned.....	852
Investigations closed.....	627
Cases open for further investigation July 1, 1931.....	417
Arrests.....	132
Indictments returned.....	126
No indictments returned.....	2
"No true" bills returned.....	10
Cases presented to grand jury and no action taken.....	10
Indictments nolle prossed.....	25
Indictments nollied with leave to reinstate.....	2
Trial jury withdrawn and indictment nollied.....	1
Indictments quashed.....	3
Trial jury conviction set aside by judge.....	1
Found guilty.....	66
Found not guilty.....	11
Cases dismissed at preliminary hearing.....	7
Trials called and cases dismissed.....	4
Guilty of attempted murder, case growing out of fire investigation.....	2
Jury disagreed and discharged.....	1
*Re-indictments returned.....	15

* Cases that were nollied in May because of presence of women on grand juries.

FIRE LOSS IN REVIEW.

Depressed economic conditions usually tend to increase fire losses, first, because of incendiary fires to realize on the insurance, and second, because upkeep on property is apt to be neglected, causing an increase in fire hazards. Despite the serious economic situation of the past year, the total fire loss for the State compares favorably with that of recent years. It was \$21,815,989. The following table shows losses by fiscal years since departmental reorganization under the Civil Administrative Code:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989

Known causes responsible for the largest losses were:

Cause.	No. fires.	Loss.
1. Electricity.....	1,492	\$1,384,196
2. Sparks on roofs.....	3,213	1,291,017
3. Matches—smoking.....	3,133	1,052,758
4. Spontaneous combustion.....	659	978,761
5. Chimneys—flues.....	1,276	978,066
6. Stoves—furnaces.....	1,036	828,330
7. Petroleum and its products.....	734	818,321

Items 2, 5 and 6 should be considered together, as all relate to heating equipment. It readily appears that the effort to keep warm in winter is productive of the greatest fire loss. The importance of safe installation and proper upkeep of everything connected with heating equipment is apparent.

Roof fires may be controlled largely by keeping flues clean, thus minimizing danger of sparks. They may be eliminated altogether by use of fire-resistive shingles or roofing material. An annual saving of more than a million dollars in fire damage would be accomplished thereby. Furthermore, one of the greatest conflagration hazards would be avoided, since burning wooden shingles, lighting on other shingle roofs, have been responsible for many notable conflagrations.

Flues should be cleaned and inspected regularly, particularly the portion in the attic. Loose or open joints usually are found here and account for many fires of "unknown" origin. Sparks get out and start a smouldering fire. When a place is burned through which gives air, the entire attic bursts into flame. This often happens at night and in many cases has trapped occupants as they slept.

It is characteristic of many to sleep as long as possible on cold mornings and then try to get the house warm quickly. This produces overheating of the furnace, which is hard on the equipment and very likely to start a fire.

Particular attention is called to the large number of fires caused by matches and smoking, causing a loss of more than \$1,000,000. This is sheer carelessness and it is a fact that carelessly discarded cigarette butts have caused some great conflagrations. With such widespread smoking both by men and women, fire prevention authorities are stressing the importance of exercising care with matches and smoking materials. Those who smoke certainly should be mindful of the hazards and avoid them.

With passenger travel by plane an established and growing means of transportation, considerable alarm is felt that cigarette butts tossed from the planes will be a new source of fire. Legislation is agitated in some states to control it.

Whether smoking by women will increase losses can be determined only after a loss experience of several years. Some insurance agents report an increase in small claims, such as damage to table runners and the like, due to smoking by women.

The large loss due to electrical causes is unreasonable. An electrical installation made according to code is reasonably safe and should cause no trouble. The principal reasons for electrical fires are amateur installations, overloading of circuits, use of drop cord for extensions, hanging of drop cord over nails and tampering with fuses. One of the most dangerous practices is the placing of pennies in back of blown fuses. A fuse is the safety valve. When it blows out there usually is an overload or a short circuit, and the trouble should be located and remedied.

Spontaneous combustion may be avoided by keeping premises free from rubbish and oily rags. Oily clothes and oil mops should be stored in metal containers.

Considering the widespread use of petroleum products, the loss occasioned by them is not out of proportion. Care in their handling and use is paramount. The regulations enforced by the department and by the large oil companies themselves have minimized hazards connected with commercial handling of gasoline.

As usual, dwellings, factories and stores suffered the largest loss. Barns and stables showed a loss of more than \$1,600,000, indicating that there are many such left in Illinois and indicating also their susceptibility to fire.

LOSS OF LIFE.

The law does not require reporting of deaths by fire to this office and we therefore must rely on unofficial sources for our information. The Division of Vital Statistics of the Department of Public Health, however, tabulated 379 deaths from fire and burns for the calendar year 1930. Only a small percentage of these occurred in burning buildings.

A leading cause is use of gasoline or naphtha for dry cleaning in the home. A lighted gas burner or any other flame or spark will touch off the fumes and the result usually is fatal.

Another practice which takes an annual toll of life is that of using kerosene or gasoline to start fires in the stove or to hurry them along.

Children playing with matches or around bonfires often are burned and women's clothing is a hazard near open fireplaces or gas stoves.

Newspaper clippings received by the division show 353 injuries from fire during the fiscal year. This is, of course, only a partial list.

A record of more than one death daily warrants serious reflection and the exercise of care by everyone wherever danger of fire is involved.

INSPECTION ACTIVITIES.

In view of the arson situation, it was not possible to maintain a full program of systematic inspections. Investigations, of course, are emergency matters and must be taken care of promptly while the evidence is fresh. Since most of the deputies were occupied a good part of the time with arson work, routine inspections could not be carried on uninterruptedly.

Several of the deputies, however, were kept on inspection work largely and one special inspector devoted himself exclusively to this line of activity. In this way we were able to handle all important special matters which came up. Practically all of the men were able to give some attention to this phase of the work in spare time between investigations, with the result that considerable routine work was accomplished.

The tabulated summary is as follows:

Number of inspections.....	6,315
Number of orders issued.....	2,042
Number of rechecks.....	3,126
Number of compliances.....	1,729
Number of removals.....	53
Number of arrests (Gasoline Law).....	1
Number of dismissals.....	1

It will be noted that there was an excess of rechecks over the number of orders issued. Part of this is explained by the fact that we

devoted considerable attention to cleaning up old orders of some standing which never had been satisfactorily disposed of. It is not the number of orders issued, but the number of compliances, which counts. Therefore we have impressed upon the deputies the importance of following up all orders very carefully in the interests of securing a compliance at the earliest possible date.

We have urged deputies also to combine tact and courtesy with firmness in handling orders. Our policy always has been to secure a compliance through the cooperation of the property owner and to use the authority of the law only where results can be secured in no other way. The results secured by this policy are illustrated by the following incident:

A deputy issued a rather extensive order on a vacant dwelling house, which would have involved considerable expense. An appeal was taken to the office and another deputy was assigned to reinspect the property. He sustained the order largely, but did recommend modification in some details. Our next advice was that the property owner was doing far more than the original order called for and was in fact carrying out a complete remodeling. We were told that the courtesy with which the department handled the matter made an impression on the property owner which was responsible for the improvement.

It is the policy of the department also to be reasonable in issuing orders and to ask for minimum requirements which will afford proper safety. The large percentage of compliance is probably due to the fact that the orders are reasonable. The fact that we have few appeals from orders of deputies is another indication of the same thing.

One of the outstanding accomplishments of the year was the removal of ruins of the old Bethel A. M. E. church at 42nd street and South Parkway, Chicago. This was a four story brick and stone building. It was bombed and burned about six years ago. The walls towered in the air surmounted by a 75 foot smokestack, creating a dangerous condition. The situation was complicated because there was a cloud on the title. The city of Chicago had tried for several years to bring about removal of the ruins. The city has an appropriation for razing old buildings, but it would have taken the entire appropriation to remove this one building. Meanwhile another change of ownership occurred and through the cooperation of the new owner, title was finally cleared up and the remains of the building completely removed.

Gasoline installations continue to be one of the important branches of our work. Under holding of the Supreme Court, the rules of this department apply throughout the State except only in cities or villages which had a regulatory ordinance in full force and effect prior to the time the State law became effective, July 1, 1919. Since relatively few cities and villages had such ordinances, a great volume of blue prints for new installations, additions or alterations of gasoline bulk and filling stations has been thrown into the office. The larger oil companies like State regulation, because it implies one set of requirements largely throughout the State. Generally speaking, we have splendid cooperation from the oil industry as a whole, which has manifested a desire to cooperate fully with the office in carrying out regulations.

Safety in school buildings continues to be one of the major concerns of the division. Inspections during the last year indicate a considerable improvement among the schoolhouses of the State, but many of them are still far below reasonable standards of safety. The depression in business conditions and the lowering of property values has cut or will cut the revenue of a great many school districts and many of them lack the funds to make extended improvements. The department, however, has not lowered the standards for school safety and will not do so. We are as reasonable as possible, but we must ask that the minimum requirements be met. Generally speaking, school authorities are co-operating toward that end. We hope and expect that conditions will improve shortly and that things will be near a normal basis again.

The purpose of inspection work is to locate unnecessary fire hazards and ask for their correction, and to require reasonable safeguards both to life and property. Through years of effort we have built up very satisfactory cooperation on part of local inspection officials in many cities of the State. In some cities hazards are kept pretty well under control because of regular attention from the local authorities. In such communities the work of this office largely supplements that of the local authorities. In a good many communities, however, there is very little local inspection work and the department of course finds plenty to do in such localities.

We maintain close contact with the Illinois Firemen's Association, the Illinois Municipal League and other organizations throughout the State. Through this contact we are stimulating an increasing systematic local regulation. We feel that the department can be of greatest help to the municipalities of the State by helping them formulate practical programs of local regulation and inspection. This enables them to take care of purely routine matters regularly throughout the year and leaves this department largely free to handle special matters which involve some complication. In this way we can be of maximum service to the various cities and villages of the State.

EDUCATION AND PUBLICITY.

In addition to our booth at the State Fair, we provided a fire prevention exhibit for five county fair circuits, showing at a total of 34 fairs. This exhibit featured two of the common causes of fire and fire casualties.

One was an ironing board through which a hole had been burned by an electric iron. The iron rested on the floor beneath the board, with the cord extending up through the hole. A sign carried the warning "Do not leave electric irons with current turned on."

The other represented a scale balanced on one side by a gallon can of gasoline and on the other by 86 pounds of dynamite. A sign conveyed the information that one gallon of gasoline when vaporized has the potential power of 86 pounds of dynamite.

This same exhibit, considerably amplified by other material, was used at the State Fair. Thousands of visitors stopped at our booth during the State Fair and we distributed something like 15,000 pieces of literature covering safety requirements for schoolhouses, rules govern-

ing gasoline storage, requirements for fire escapes and the fire laws of Illinois. We also distributed a handy card containing all of the principal fire hazards in the home.

Fire Prevention Week was observed October 5 to 11. One of the pertinent paragraphs in Governor Emmerson's proclamation was this: "To prevent fire is the personal responsibility of everyone. It should be taken seriously." We distributed throughout the State 40,000 copies of the Governor's proclamation and 40,000 copies of an attractive two color poster. These were distributed through schools, fire chiefs, mayors, chambers of commerce, civic clubs, women's clubs and other agencies and reached every crossroads hamlet in the State. The observance of the week was more general and intensive than heretofore. Each year the effect of efforts put forth during previous years is reflected in augmented local programs throughout the State. Civic organizations usually devote their meetings during Fire Prevention Week to the subject of fire prevention. School programs during the week are quite general. Newspapers are generous in their publicity and the radio was used by the department for the first time. By invitation of station W. L. S., the Fire Marshal gave a talk on farm fire hazards from the Chicago studio. Many other radio programs were given, sponsored by various agencies interested in reducing fire losses.

Many addresses have been given by the Fire Marshal and members of the department during the year and a great deal of publicity matter and literature has been utilized.

FIREMEN'S SHORT COURSE.

The seventh annual short course was held at the University of Illinois June 23-26. Seven states were represented in the enrollment. There were 349 chiefs and firemen in attendance.

An open forum was conducted each morning, at which questions submitted by those present were discussed.

The drill tower was completed by emergency appropriation of the Legislature and was used for evolution demonstrations.

Illinois originated the short course idea. This year 31 states held short courses.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1930, TO JUNE 30, 1931.

Total value of buildings in which fires have occurred.....	\$71,429,768
Total damage to said buildings.....	11,312,257
Total insurance on said buildings.....	44,969,486
Total value of personal property jeopardized by fire.....	27,659,154
Total damage to said personal property.....	5,223,561
Total insurance on said personal property.....	16,481,447
Total fire loss outside the city of Chicago.....	16,535,818
Total number of fires outside the city of Chicago.....	11,126

IN THE CITY OF CHICAGO.

Total fire loss in the city of Chicago.....	\$5,280,171
Total number of fires in the city of Chicago.....	8,157

IN THE ENTIRE STATE OF ILLINOIS.

Total fire loss in the entire State of Illinois.....	\$21,815,989
Total number of fires in the entire State of Illinois.....	19,283

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1930, TO JUNE 30, 1931.

Month.	Number fires.	Fire loss.	Month.	Number fires.	Fire loss.
1930			1931		
July.....	1,830	\$2,194,955	January.....	1,941	\$1,642,303
August.....	1,535	1,469,610	February.....	1,771	1,682,062
September.....	1,425	3,230,574	March.....	1,771	2,134,496
October.....	1,422	1,367,896	April.....	1,691	1,827,572
November.....	1,810	1,769,448	May.....	1,324	1,204,134
December.....	1,815	2,212,105	June.....	948	1,080,834
			Total.....	19,283	\$21,815,989

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY 1, 1930, TO JUNE 30, 1931.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,276	\$ 978,066
Conflagrations.....	66	71,380
Electricity (except electric irons and similar small devices).....	1,492	1,384,196
Explosions.....	458	689,498
Exposure.....	645	705,315
Fireworks, fire crackers, balloons, etc.....	49	8,348
Friction, sparks occasioned by running machinery.....	123	182,305
Gas, natural and artificial.....	166	110,081
Hot ashes and coals, open fires.....	438	207,560
Hot grease, oil, tar, wax, asphalt (ignition of).....	113	40,218
Hot irons, including electric devices.....	271	54,009
Incendiarism.....	261	413,337
Lightning—buildings rodded.....	19	13,474
Lightning—buildings not rodded.....	276	558,290
Matches, smoking.....	3,133	1,052,758
Miscellaneous—cause known, but not classified.....	516	265,640
Open lights.....	100	36,543
Petroleum and its products.....	734	818,321
Rubbish and litter.....	1,229	355,656
Sparks—arising from combustion.....	188	103,794
Sparks—on roofs.....	3,213	1,291,017
Spontaneous combustion.....	659	978,761
Steam and hot water pipes.....	39	12,297
Stoves, furnaces, boilers and their pipes.....	1,036	828,330
Unknown.....	2,687	9,882,645
Unknown origin, but investigation important.....	96	774,150
Total.....	19,283	\$21,815,989

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1930, TO JUNE 30, 1931.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,869	\$1,001,618
Amphitheatres, grand stands, etc.....	5	60,243
Bakeries.....	33	56,203
Barber shops.....	32	27,286
Barns and stables (not liveryes).....	1,006	1,604,860
Churches.....	61	181,475
Depots, stations, waiting rooms, etc.....	13	20,040
Dry cleaning establishments.....	40	49,075
Dry houses, kilns, rooms, etc.....	2	2,200
Dwellings.....	7,783	6,192,580
Elevators and grain warehouses.....	20	188,209
Factories.....	276	2,936,821
Foundries.....	33	52,607
Garages.....	1,160	922,943
Granaries.....	94	152,295
Green houses.....	3	2,225
Halls, (lodge), (club), (dance), (public), etc.....	54	246,537
Hotels and boarding houses.....	171	158,571
Hospitals.....	19	24,200
Ice houses.....	8	8,075
Jails.....		
Laundries.....	37	23,190
Liveryes.....	2	2,700
Mills (flour).....	5	16,600
Mills (saw and planing).....	11	164,081
Office buildings.....	106	55,172
Oil houses.....	56	72,021
Photo studios.....	6	6,905
Power houses, pump houses and engine houses.....	14	21,985
Restaurants.....	189	226,317
Saloons.....	1	250
Sheds.....	911	193,658
Smoke houses.....	48	7,641
Silos.....	8	2,825
Stores.....	1,368	2,634,535
Shops (carpenter, blacksmith, etc.).....	85	95,307
Schools, (colleges, seminaries, etc.).....	85	591,820
Theatres and motion picture houses.....	26	529,543
Warehouses.....	104	242,427
Miscellaneous.....	788	2,334,595
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,436	162,993
Boats.....	17	140,985
Bridges.....	8	2,735
Cars (railway) (electric), etc.....	86	159,020
Docks (coal), etc.....	8	102,144
Fences.....	36	474
Grain and hay.....	125	67,718
Junk yards.....	9	9,175
Lumber yards.....	13	27,455
Tanks (water), etc.....		
Tents.....	2	255
Threshing outfits.....	1	700
Trestles.....	2	30,000
Wagons.....	5	170
Art studios.....	1	2,500
Awnings.....	1	25
Tunnels.....	1	5
Total.....	19,283	\$21,815,989

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS, JULY 1, 1930, TO JUNE 30, 1931.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	142	\$ 106,278	Livingston.....	120	395,921
Alexander.....	45	73,919	Logan.....	94	117,873
Bond.....	31	58,978	Macon.....	217	135,333
Boone.....	15	22,485	Macoupin.....	124	194,433
Brown.....	28	57,882	Madison.....	389	447,478
Bureau.....	123	143,848	Marion.....	119	391,934
Calhoun.....	41	38,057	Marshall.....	27	32,360
Carroll.....	81	69,197	Mason.....	28	66,829
Cass.....	289	250,119	Massac.....	30	93,767
Champaign.....	82	56,103	McDonough.....	130	196,150
Christian.....	58	73,976	McHenry.....	75	170,900
Clark.....	29	28,691	McLean.....	166	297,820
Clay.....	23	46,712	Menard.....	28	22,354
Clinton.....	210	184,725	Mercer.....	31	47,665
Cook.....	9,243	7,265,307	Monroe.....	11	25,800
Crawford.....	65	68,760	Montgomery.....	108	145,752
Cumberland.....	33	24,833	Morgan.....	91	117,043
DeKalb.....	117	147,397	Moultrie.....	37	45,954
DeWitt.....	27	19,218	Ogle.....	53	225,191
Douglas.....	52	90,160	Peoria.....	441	385,640
DuPage.....	95	256,921	Perry.....	72	55,002
Edgar.....	87	193,129	Piatt.....	47	51,740
Edwards.....	27	10,827	Pike.....	52	106,865
Effingham.....	68	71,598	Pope.....	18	20,005
Fayette.....	39	76,924	Pulaski.....	17	37,388
Ford.....	124	207,333	Putnam.....	20	35,097
Franklin.....	152	133,511	Randolph.....	18	7,024
Fulton.....	20	18,410	Richland.....	52	20,035
Gallatin.....	50	53,960	Rock Island.....	382	177,444
Greene.....	23	36,784	Saline.....	103	82,415
Grundy.....	64	29,968	Sangamon.....	398	510,394
Hamilton.....	83	107,578	Schuyler.....	24	61,223
Hancock.....	7	2,015	Scott.....	20	18,732
Hardin.....	12	18,915	Shelby.....	96	122,870
Henderson.....	188	126,141	Stark.....	25	38,329
Henry.....	89	115,104	St. Clair.....	557	1,288,423
Iroquois.....	163	153,148	Stephenson.....	43	60,947
Jackson.....	50	83,147	Tazewell.....	78	108,161
Jasper.....	118	73,776	Union.....	23	6,530
Jefferson.....	28	34,550	Vermilion.....	259	489,768
Jersey.....	41	62,031	Wabash.....	69	29,197
JoDaviess.....	9	19,350	Warren.....	90	97,361
Johnson.....	303	398,152	Washington.....	33	35,720
Kane.....	131	196,273	Wayne.....	65	55,815
Kankakee.....	30	46,520	White.....	51	42,889
Kendall.....	187	229,597	Whiteside.....	111	76,179
Knox.....	298	608,569	Will.....	251	1,133,802
Lake.....	269	373,943	Williamson.....	204	301,927
LaSalle.....	100	193,283	Winnebago.....	122	263,899
Lawrence.....	47	95,710	Woodford.....	28	65,799
Lee.....			Total.....	19,283	\$21,815,989

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FIFTEENTH ANNUAL REPORT
OF
THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1931
TO
June 30, 1932



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UNIVERSITY OF ILLINOIS

LOUIS L. EMMERSON, Governor
LEO H. LOWE, Director
S. L. LEGREID, Fire Marshal

[Printed by authority of the State of Illinois.]

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JOURNAL PRINTING COMPANY,
SPRINGFIELD, ILLINOIS.

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DIVISION OF FIRE PREVENTION.

S. L. LEGREID, *Fire Marshal.*

The division has passed through one of the hardest years of its history. Perhaps no branch of State government feels the effects of an economic depression more than ours.

First, arson always increases when times are hard. Hundreds of people resort to burning in order to obtain cash through fire insurance.

Second, upkeep on buildings is deferred in such times, causing an increase in fire hazard conditions. Efforts of the division to cause correction of hazards are difficult because it involves an expenditure of money by the owner to make repairs.

ARSON INVESTIGATIONS.

This is emergency work and cannot wait. Investigators must respond while the trail is hot and therefore this work has had first call on the time of our deputies. Arson ranks with murder and kidnaping as a despicable crime. It often results in death of innocent persons trapped in the burned building and is a sneaking, cowardly offense committed under cover. We appreciate fully our deep responsibility in stamping out this crime and have been relentless in our investigations. No case has been too small or too great, and we follow them until we have exhausted every resource.

A total of 58 convictions was recorded for the year. This is 8 less than the high record of the preceding year, in which two notorious rings were broken up, with several convictions in each.

The tabulated investigation record follows:

Investigations open July 1, 1931.....	417
New investigations assigned.....	1,206
Investigations closed	945
Cases open for further investigation July 1, 1932.....	678
Arrests	95
Indictments returned	86
"No True" bills returned.....	12
Indictments nolle prossed.....	12
Re-indictments returned	8
Indictments quashed	3
Found Guilty	58
Found Not Guilty.....	13
Cases dismissed at preliminary hearing.....	9
Trials called and cases dismissed.....	2
No action by grand jury.....	3
Jury discharged without reaching verdict.....	2
Decision of guilty by lower court affirmed by Supreme Court.....	1

Every variety of burning has been encountered. There have been boys, some working alone and some in gangs, who have applied the match to various kinds of buildings from barns to schoolhouses. The motive in some instances was malicious, in others mischievous. There have been adults afflicted with pyromania or weak-mindedness. Some individuals

set fire to satisfy revenge or spite. But the great majority of incendiary fires have been set to collect the insurance.

Times of depression affect all classes alike. Hence the crime of arson has been committed by all classes alike. Manufacturers and business men facing failure, farmers selling at ruinous prices, workingmen out of employment and in dire need of funds, all have been reduced to a common level of misfortune and many in desperation have turned to the torch as a means of salvaging something from the wreckage by cashing in on fire insurance policies. It has been a motley array of offenders of varying degrees of hardness. All have been dealt with according to circumstances. Probation has been granted where conditions warranted, but penitentiary sentences insisted on in wilful, malicious and premeditated cases, as contemplated by statute.

In Chicago one sentence of one to 50 years was secured for murder by arson. It was a rooming house fire in which three died. Two others were indicted in the same case. One was picked up at a ball game and given 14 years each for murder and arson, sentences to run concurrently. The other is at large.

In Will County a reign of terror was ended by the apprehension of two men, who admitted seven fires, including a dwelling, roadhouse and some garages. They are serving a sentence of one to 10 years.

A youthful terror was rounded up in Jersey County and admitted five fires. He is in a correctional institution suggested by the Department of Public Welfare, where efforts are being made to fit him for a useful life.

In St. Clair County two men were given a sentence of 18 months and a fine of \$10,000.00 in Federal Court for using the mails to defraud. One was the proprietor of a store which burned; the other was a public adjuster who represented him in his efforts to collect the insurance. The evidence was not sufficient to connect anyone with the actual burning and it appeared that prosecution under the State arson code could not be had. We felt that this case deserved vigorous prosecution and through cooperation of Federal authorities were able to convict on a charge of sending an allegedly fraudulent proof of loss through the mails. This shows that there are ways to secure results even when the ordinary procedure under State laws fails. Perseverance and resourcefulness do succeed.

In Peoria County our evidence failed to secure an indictment in a fire involving a large loss. The same evidence, used in a civil suit, was sufficient to cause a jury to decide that the insurance should not be paid. Approximately \$76,000.00 was involved. In another case of the same sort in the same county, our evidence resulted in a similar verdict. Fourteen thousand dollars was involved.

The department has won a reputation among fire marshals and insurance interests throughout the country for success in arson work. The last three years are outstanding as to the record for convictions, surpassing anything in the history of the department. We have developed a force of seasoned deputies who are thoroughly earnest and determined. In every county where we have had real cooperation from State's at-

torneys, success has been achieved and we pay tribute to this type of prosecutors. Many counties are fortunate in having them.

On the whole, we believe there has been some easing of the arson situation. Such was the indication towards the close of the year. It may be a temporary lull, but we are on the firing line with no let-up in vigilance. Our slogan continues to be, "Make Illinois unsafe for the arsonist."

INSPECTION ACTIVITIES

It has been impossible to maintain a systematic routine of inspection work because of the press of incendiary investigations, but the record reveals surprisingly gratifying results. The tabulation is:

Number of inspections.....	9,259
Number of orders issued.....	1,873
Number of rechecks.....	2,882
Number of compliances.....	1,528
Number of removals.....	131
Number of arrests (Fire Marshal Law).....	2

The percentage of compliances is high and the number of removals is larger than usual. Removals represent a class of dilapidated buildings beyond repair, which are found in every community and which are always a serious fire menace and an eye-sore. As the law does not give us power to condemn, we handle the situation by requiring a thorough overhauling and repair. The owner usually chooses to remove.

We have had to recognize economic conditions in our inspection work and confine our orders to the correction of urgent fire hazards. Orders for extensive improvements, involving expenditure of considerable money, have been deferred where they could be safely deferred. On all sides we have heard the plea of no funds and inability to borrow. Property ordinarily producing revenue has become a liability to owners. In many communities bank failures have tied up funds and complicated the situation. Institutions, public and private, and schools are operating on curtailed budgets, some of them unable to keep up with running expenses. Upkeep is bound to suffer under such conditions and we have tried to be reasonable.

We have not compromised with any conditions which involve life hazard, particularly in schools and institutions, and have insisted on all of the reasonable standards of safety, placing the responsibility squarely on the authorities in charge.

At the request of the Child Welfare Division of the Department of Public Welfare, we have undertaken an inspection of institutions licensed by that division and are furnishing reports covering all fire safety features. This is a large undertaking, with a limited force of deputies whose time is so largely demanded for arson work, but we are accomplishing it quite satisfactorily.

GASOLINE REGULATION

By act of 1919 the Legislature vested in the Department of Trade and Commerce responsibility of regulating the transportation, sale, use and storage of gasoline and volatile oils, except in cities and villages which were regulating by ordinance at the time the act took effect. This involves the regulation of bulk storage plants of gasoline, filling stations, garages, dry cleaning plants and the storage and use of fuel oil.

The administration of this act has taxed the resources of the division this year. There has been an unprecedented expansion in bulk storage plants and filling stations. Even in times of depression people are driving motor cars. Oil and gasoline are commodities they are buying. Every new State highway produces a new array of filling stations. There seems to be a great impulse to get into the oil and gasoline business. The larger oil companies have generally limited expansion programs to meet actual needs, but the same restraint has not been apparent otherwise.

The rules of the division require that plans of bulk and service station layouts be submitted for approval. The work of passing on these plans has almost swamped the office at times. We are dealing with all classes of people, some of whom are disposed to disregard requirements and some of whom seem unable to comprehend requirements. Some are responsible, others are not. There seems to be a grand rush to get into the business while the "getting is good."

We have upheld our rules in face of terrific efforts to override or get around them. The responsible element in the oil business realizes that proper regulation and proper standards are necessary and must be upheld for the sake of the industry, which has been built up on reputation and good will. We have the full cooperation of that element, which really represents the industry.

We realize there are a great many outlaw installations, made without reference to our rules. These will be handled as we find them. In several cases we have required removal of tanks where we found serious violations.

There still are many who plead ignorance of the law. We feel there has been ample time for education as to requirements and violations will be dealt with accordingly.

Despite the volume of this class of work, our advice on almost every proposal submitted has been in the mail the same day as received.

TABULATED FIRE LOSS

Losses by fiscal years since departmental reorganization under the Civil Administrative Code follows:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381

Causes responsible for the largest losses during the year were these:

	No. fires.	Loss.
Exposure.....	733	\$981,272
Electricity (except electric irons and similar small devices).....	1,596	884,629
Stoves, furnaces, boilers and pipes.....	936	783,058
Spontaneous combustion.....	530	765,200
Sparks on roofs.....	2,632	759,935
Matches and smoking.....	2,561	736,928
Explosions.....	522	710,004
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,032	640,923
Lightning.....	384	570,249
Incendiarism.....	295	556,070

One of the most striking showings of the above table is that four causes were responsible for more than 45 per cent of the number of fires. They were sparks on roofs, matches and smoking, electricity and flues. They caused 7,821 out of the year's total of 17,279. This indicates where effective fire prevention work can be done. A well defined sense of personal responsibility, generously distributed among citizens of the State, would meet the situation. This is a splendid illustration of the fact that simple hazards are the cause of our tremendous fire waste.

Classes of property suffering the greatest losses were:

	No. fires.	Loss.
Dwellings.....	6,927	\$4,639,543
Stores.....	1,512	2,896,976
Barns and stables.....	807	1,490,151
Factories.....	230	947,921
Garages.....	1,062	640,585

This table shows that 40 per cent of fires occurred in homes and points the way to another effective source of fire prevention. Certainly fire prevention should begin in the home, which most families struggle hard to obtain and which is usually their most cherished possession. The majority of deaths and injuries from fire occur in the home and it would seem that this should be an incentive to utmost care and vigilance.

Lightning is always a major cause of fire, particularly in rural territory. It may be almost entirely controlled by standard lightning rod equipment, properly installed and grounded to permanent moisture.

The lightning loss record shows:

	No. fires.	Loss.
Buildings rodded.....	39	\$ 59,435
Buildings not rodded.....	345	510,814

The number of losses on rodded buildings is larger than usual. We suspect improper or inferior installation and perhaps some inattention to upkeep.

In view of the tremendous expansion of the oil business, it is worthy of note that petroleum and petroleum products caused 736 fires and a

loss of \$384,664.00. This is not surprising in view of the universal use of these products, and the carelessness with which so many people handle them.

Filling stations had a comparatively good record. Fires reported were 60, with a loss of \$47,334.00.

Automobiles destroyed by fire totaled 1,465, with a loss of \$116,-018.00.

The record carries 2,275 fires reported as of unknown origin, with a loss of \$6,157,967.00; also 139 fires of undetermined origin but warranting investigation, with a loss of \$996,835.00. The latter group carries suspicion of incendiary origin.

A complete, detailed tabulation appears at the end of this report.

LOSS OF LIFE.

Loss of life in the sad corollary of the fire loss. Since the law does not require reporting of casualties to this office, we must rely on unofficial sources. Figures so compiled show the following:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	11	42	11	64
Females.....	20	30	14	64
Total.....	31	72	25	128

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	17	317	3	337
Females.....	18	76	4	98
Total.....	35	393	7	435

Carelessness accounts for most casualties. Use of kerosene to start or revive fires in stoves takes an annual toll. Use of naphtha for dry cleaning at home brings death or injury to many. Carelessness with matches or around fire brings grief to many. Only a small percentage of deaths or injuries occur as a result of people being trapped in burning buildings.

FIREMEN'S SHORT COURSE

The eighth annual Fire College was held at the University of Illinois June 21 to 24, inclusive. The enrollment was 416, the largest yet attained. One hundred and eighteen towns were represented. Diplomas were awarded for the first time. They went to those who attended 50 per cent of the meetings and who participated in the drills and evolutions. The number who secured diplomas was 198. A small star was

affixed for those who also had contributed something to the success of the program.

The Fire College, or Short Course, was originated in Illinois and has been the pattern for 20 similar colleges in other states. It is not a convention, but a school of instruction where serious thought is given to all phases of fire prevention, control and extinguishment. With changing conditions, new building materials, new methods of fighting fires and new hazards, it is important that there be opportunity for firemen of the State to exchange ideas and learn new methods.

Morning sessions were devoted to discussion of important subjects and afternoons to evolutions at the drill tower. For the purpose of evolutions, the men were divided into three groups, each with a leader in charge, and were given certain evolutions to perform. Each group rotated and was given different things to do on different days. On the final afternoon picked teams from each group engaged in competitive drills and evolutions. This plan was a new feature this year and was so satisfactory that it doubtless will be continued.

The course has been growing more practical each year. Plans for next year aim to get away almost entirely from formal papers and devote morning sessions to open forums, demonstrations, a question box and a brief review of causes and control of fires the past year. More work will be given which will apply directly to the volunteer departments and more group instructors will be provided if possible, thus permitting the men to be organized into smaller groups for more effective instruction.

The tower is said to be one of the best in the country.

EDUCATION AND PUBLICITY

The division conducted its usual booth at the State Fair, with a practical exhibit illustrating dangerous fire hazards. Competent deputies were in charge and passed out a large quantity of literature. Advice was given to many on general and special problems.

Fire Prevention Week was observed October 4 to 10, with increased interest everywhere. Our poster was again one of the most effective in the country and 40,000 copies were distributed, together with the same number of copies of the Governor's proclamation.

Addresses and distribution of literature are a regular feature of our work throughout the year.

GENERAL

Probably no division has a wider scope of work than ours. We have all the arson work of a vast State. We are charged with all general fire prevention work and in addition with regulating all phases of the use and handling of gasoline and volatile oils. We have only 29 deputies in the field. Our revenue is derived entirely from a small tax on fire insurance premiums. This year it was reduced by about \$40,000.00, or about one-third, at a time when demands for our services were greater than ever. We have done our best to meet the emergency and believe we have succeeded.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1931, TO JUNE 30, 1932.

Total value of buildings in which fires have occurred.....	\$209,512,258
Total damage to said buildings.....	10,035,562
Total insurance on said buildings.....	120,534,098
Total value of personal property jeopardized by fire.....	47,472,192
Total damage to said personal property.....	5,773,819
Total insurance on said personal property.....	28,554,989
Total fire loss in the entire State of Illinois.....	15,809,381
Total number of fires in the entire State of Illinois.....	17,279

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1931, TO JUNE 30, 1932.

Total value of buildings in which fires have occurred.....	\$62,943,159
Total damage to said buildings.....	8,459,530
Total insurance on said buildings.....	40,845,552
Total value of personal property jeopardized by fire.....	23,436,572
Total damage to said personal property.....	4,598,632
Total insurance on said personal property.....	13,964,679
Total fire loss outside the city of Chicago.....	13,088,162
Total number of fires outside the city of Chicago.....	10,243

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1931, TO JUNE 30, 1932.

Total value of buildings in which fires have occurred.....	\$146,569,099
Total damage to said buildings.....	1,546,032
Total insurance on said buildings.....	79,688,546
Total value of personal property jeopardized by fire.....	24,035,620
Total damage to said personal property.....	1,175,187
Total insurance on said personal property.....	14,590,310
Total fire loss in the city of Chicago.....	2,721,219
Total number of fires in the city of Chicago.....	7,036

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1931, TO JUNE 30, 1932.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1931			1932		
July.....	1,363	\$1,203,972	January.....	1,484	\$1,123,246
August.....	1,358	1,536,389	February.....	1,792	1,850,193
September.....	1,078	1,581,526	March.....	2,263	2,354,803
October.....	1,206	1,043,093	April.....	2,009	1,260,171
November.....	1,130	869,780	May.....	1,364	1,286,685
December.....	1,434	1,129,588	June.....	888	569,935
			Total.....	17,279	\$15,809,381

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY 1, 1931 TO JUNE 30, 1932.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,032	\$ 640,923
Conflagrations.....	217	33,375
Electricity (except electric irons and similar small devices).....	1,596	884,629
Explosions.....	522	710,004
Exposure.....	733	981,272
Fireworks, fire crackers, balloons, etc.....	37	8,342
Friction, sparks occasioned by running machinery.....	81	37,080
Gas, natural and artificial.....	188	60,003
Hot ashes and coals, open fires.....	330	72,965
Hot grease, oil, tar, wax, asphalt (ignition of).....	75	34,860
Hot irons, including electric devices.....	204	43,133
Incendiarism.....	295	556,070
Lightning—buildings rodde.....	39	59,435
Lightning—buildings not rodde.....	345	510,814
Matches, smoking.....	2,561	736,928
Miscellaneous—cause known, but not classified (for unknown see No. 27) ..	467	185,182
Open lights.....	170	66,362
Petroleum and its products.....	736	384,664
Rubbish and litter.....	871	210,472
Sparks—arising from combustion (other than 23).....	156	44,983
Sparks—on roofs.....	2,632	759,935
Spontaneous combustion.....	530	765,200
Steam and hot water pipes.....	112	84,890
Stoves, furnaces, boilers and their pipes.....	936	783,058
Unknown.....	2,275	6,157,967
Unknown origin, but investigation important.....	139	996,835
Total.....	17,279	\$15,809,381

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1931, TO JUNE 30, 1932.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,261	\$ 512,171
Amphitheatres, grand stands, etc.....	2	10,050
Bakeries.....	54	30,501
Barber shops.....	32	15,768
Barns and stables (not liveryes).....	807	1,490,151
Churches.....	60	433,613
Depots, stations, waiting rooms, etc.....	11	6,200
Dry cleaning establishments.....	27	16,492
Dry houses, kilns, rooms, etc.....		
Dwellings.....	6,927	4,639,543
Elevators and grain warehouses.....	17	251,775
Factories.....	230	947,921
Foundries.....	16	6,025
Garages.....	1,062	640,585
Granaries.....	74	100,419
Green houses.....	3	95
Halls, (lodge), (club), (dance), (public), etc.....	63	443,675
Hotels and boarding houses.....	139	113,458
Hospitals.....	9	4,872
Ice houses.....	7	10,425
Jails.....	1	2,500
Laundries.....	36	27,942
Liveryes.....	4	7,463
Mills (flour).....	8	120,985
Mills (saw and planing).....	8	41,470
Office buildings.....	142	270,990
Oil houses.....	60	47,334
Photo studios.....	7	25,780
Power houses, pump houses and engine houses.....	20	27,505
Restaurants.....	161	142,546
Saloons.....		
Sheds.....	717	145,645
Smoke houses.....	51	8,642
Silos.....	19	9,145
Stores.....	1,512	2,896,976
Shops (carpenter, blacksmith, etc.).....	140	88,741
Schools (colleges, seminaries, etc.).....	82	238,315
Theatres and motion picture houses.....	27	212,610
Warehouses.....	101	456,801
Miscellaneous.....	635	1,036,285
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,465	116,018
Boats.....	11	6,150
Bridges.....	13	27,635
Cars, (railway), (electric), etc.....	65	34,158
Docks (coal), etc.....	5	1,675
Fences.....	19	198
Grain and hay.....	105	9,417
Junk yards.....	24	22,470
Lumber yards.....	19	101,630
Tanks (water), etc.....	7	6,461
Tents.....	1	100
Threshing outfits.....	3	1,025
Trestles.....	1	300
Wagons.....	9	730
Total.....	17,279	\$15,809,381

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS, JULY 1, 1931, TO JUNE 30, 1932.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	136	\$ 87,753	Livingston.....	122	\$125,538
Alexander.....	43	36,867	Logan.....	82	309,483
Bond.....	26	67,835	Macon.....	153	146,452
Boone.....	36	35,189	Macoupin.....	117	109,995
Brown.....	16	24,215	Madison.....	323	338,201
Bureau.....	81	88,358	Marion.....	85	446,469
Calhoun.....			Marshall.....	17	10,315
Carroll.....	46	57,447	Mason.....	39	56,499
Cass.....	56	19,860	Massac.....	19	121,246
Champaign.....	214	273,011	McDonough.....	109	113,583
Christian.....	87	73,591	McHenry.....	77	179,906
Clark.....	53	48,098	McLean.....	154	536,483
Clay.....	12	7,125	Menard.....	33	31,680
Clinton.....	32	25,836	Mercer.....	29	42,757
Coles.....	173	115,158	Monroe.....	10	23,610
Cook.....	8,038	4,018,533	Montgomery.....	81	106,399
Crawford.....	63	48,947	Morgan.....	80	64,291
Cumberland.....	17	15,289	Moultrie.....	42	32,367
DeKalb.....	98	120,490	Ogle.....	53	110,230
DeWitt.....	56	62,820	Peoria.....	374	329,966
Douglas.....	44	39,729	Perry.....	65	31,367
DuPage.....	106	234,113	Piatt.....	38	32,310
Edgar.....	85	85,186	Pike.....	50	103,670
Edwards.....	1	1,350	Pope.....	31	27,955
Effingham.....	26	13,411	Pulaski.....	18	12,243
Fayette.....	49	103,130	Putnam.....	15	23,222
Ford.....	43	91,310	Randolph.....	17	15,021
Franklin.....	119	233,703	Richland.....	40	26,770
Fulton.....	129	133,501	Rock Island.....	359	235,150
Gallatin.....	19	27,178	Saline.....	151	167,046
Greene.....	47	34,819	Sangamon.....	333	447,632
Grundy.....	38	67,984	Schuyler.....	17	39,623
Hamilton.....	55	46,165	Scott.....	21	12,117
Hancock.....	61	95,853	Shelby.....	109	142,460
Hardin.....	7	4,095	Stark.....	33	59,487
Henderson.....	16	20,480	St. Clair.....	453	429,930
Henry.....	148	116,178	Stephenson.....	67	52,517
Iroquois.....	91	138,856	Tazewell.....	119	95,922
Jackson.....	109	67,256	Union.....	28	54,685
Jasper.....	39	19,733	Vermilion.....	273	459,585
Jefferson.....	87	65,819	Wabash.....	46	10,130
Jersey.....	29	40,587	Warren.....	78	59,816
JoDavies.....	24	47,885	Washington.....	42	64,491
Johnson.....			Wayne.....	64	38,845
Kane.....	361	864,415	White.....	32	31,230
Kankakee.....	117	75,996	Whiteside.....	142	88,741
Kendall.....	29	63,429	Will.....	256	260,591
Knox.....	215	105,077	Williamson.....	210	228,786
Lake.....	283	498,376	Winnebago.....	81	112,019
LaSalle.....	282	448,847	Woodford.....	23	73,350
Lawrence.....	76	43,126			
Lee.....	51	82,586	Total.....	17,279	\$15,809,381

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1932/33

SIXTEENTH ANNUAL REPORT

OF

THE DEPARTMENT OF TRADE
AND COMMERCE

Division of Fire Prevention

July 1, 1932

TO

June 30, 1933

THE LIBRARY OF THE
APR 3 - 1936

UNIVERSITY OF ILLINOIS



HENRY HORNER, Governor

ERNEST PALMER, Acting Director

SHERMAN V. COULTAS, Fire Marshal

SIXTEENTH ANNUAL REPORT

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1932/33

DIVISION OF FIRE PREVENTION.

SHERMAN V. COULTAS, *Fire Marshal.*

The trend to lower levels in the fire loss of the State, which was noted in last year's report, has continued. The reported loss for the year was \$13,269,814, which is a decrease of \$2,539,567 from that of the preceding year, or approximately 16 per cent. The number of fires reported was 16,929, a decrease of 350.

No doubt the decrease in fire losses is largely a reflection of economic forces of the depression, which drove values mercilessly to low levels, for fire losses certainly have been estimated and adjusted at the current low levels. A contributing factor also is an abatement in moral hazard toward the close of the year, due to a brightening of business conditions and due partly perhaps to the moratorium of the insurance companies, under which they have exercised the right to take the full sixty days after proof of loss is filed to settle the claim.

TABULATED FIRE LOSS.

Losses by fiscal years since departmental organization under the Civil Administrative Code follow:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814

Causes which accounted for the largest losses during the year were:

	Number fires.	Loss.
Explosions.....	543	\$1,053,603
Chimneys, flues, cupolas and stacks overheated or defective.....	1,140	891,433
Sparks on roofs.....	3,127	867,084
Stoves, furnaces, boilers and pipes.....	1,137	825,676
Electricity (except electric irons and similar small devices).....	1,522	774,555
Exposure.....	683	747,244
Spontaneous combustion.....	588	656,124
Incendiarism.....	277	567,335
Matches and smoking.....	2,264	505,267

The above grouping is on the basis of the financial loss. If it were made according to the number of fires, five causes would stand out conspicuously in this order: Sparks on roofs, matches and smoking, electricity, chimneys and flues, stoves and furnaces. They account for 9,190 of the 16,929 reported fires, a little more than 54 per cent. They are the chronic headliners, offspring of carelessness and negligence, which point the way to an effective source of fire prevention efforts.

Classes of property suffering the most severe losses ran about the same as usual:

	Number fires.	Loss.
Dwellings.....	7,484	\$4,827,521
Stores.....	1,351	1,917,699
Barns and Stables.....	683	1,095,881
Factories.....	236	925,241
Elevators and grain warehouses.....	15	727,360
Apartments.....	2,209	524,016

Dwellings are far in the lead, both as to number of fires and amount of loss. Apartments rank next as to number of fires. The number of fires in dwellings and apartments was 9,693, or almost fifty-seven per cent of all fires reported, illustrating the fact that fire prevention begins at home.

A total of 1,251 automobiles, loss \$73,743, and 1,019 garages, loss \$292,775, also is shown.

Petroleum and its products is credited with 720 fires and a loss of \$278,959. There were fires in 41 filling stations and oil houses, loss \$41,819, and 27 dry cleaning plants, loss \$26,203. Considering the special hazard of petroleum products and their widespread use, the record is not bad.

A complete statistical tabulation of the year's loss is carried at the end of this report.

ARSON ACTIVITIES.

Although the arson situation was somewhat easier, especially in the closing months of the year, investigation of suspicious fires was the major activity of the division. The scope of this work is indicated by the fact that 933 new investigations were undertaken, an average of almost 78 a month. A total of 91 convictions was recorded, the largest number for a single year in the history of the office.

Thirty-five of the convictions are accounted for in the breaking up of a racket in Cook County, whereby insurance companies were defrauded by the simple expedient of hauling burned furniture into a room of a home or apartment, following which enough charring was done in the room with lighted newspapers to simulate a burning. The trick was repeated too often and the number of these identical small losses aroused enough suspicion to accomplish the undoing of the perpetrators. A trap was set and they were caught in the act. Altogether 44 persons were indicted for conspiracy. Thirty-five have pleaded guilty to date. Two, who were the ring leaders, were given a year in jail, two received one

day in jail and the others a fine of \$25. Indictments were nollied in two cases and seven remain to be tried.

Murder was linked with arson in several Chicago cases. In one of them a single defendant received one to fourteen years each for murder and arson, sentences to run concurrently. In another investigation, two of three defendants were given one to fourteen years for manslaughter by arson. There were two other cases which were not so successful, as grand juries returned "No True Bills."

In one Chicago case three were burned in the fire they were accused of setting, one fatally. The other two were tried for arson, but acquitted.

One of the conspicuous accomplishments of the division was the uncovering of a gang which operated in southern and central Illinois, with ramifications extending into other states in the southwest. It resulted from the investigation of an explosion and fire in a furniture store in Marion County, which did a great deal of damage to other property in the vicinity. Four were ready to plead guilty when the trials were called, with one additional case pending. A conviction was secured in another county as a result of evidence uncovered in this investigation, indictments secured in still another county and leads obtained which may result in the successful closing of other investigations.

Finis was written in a Rock Island case, where the "torch" pleaded guilty to conspiracy and was fined \$1,500, after he had won a reversal from the Supreme Court on a previous conviction which carried a penitentiary sentence. This man was seriously burned in the fire and almost died from his injuries. The merchant who hired him to do the job committed suicide rather than face trial. Arson inflicts severe penalties sometimes.

The record carries several episodes of burnings by youthful miscreants and a few cases of pyromania and insanity. The majority of burnings were motivated by desire to collect the insurance and involved all classes of property, from dwellings to business houses. The economic depression hit people in all walks of life and in desperation many turned to their insurance policies in the hope of realizing ready cash.

Improvement in business conditions the last few months, cancellation and reductions by insurance companies on doubtful risks, and finally the moratorium on loss payments decreed by the insurance companies are all credited with the improvement in the arson situation. The moratorium is stressed by many as the most important factor. Opinion is divided on this, but certainly fires are discouraged by knowledge that the companies will take the full sixty days after filing proof of loss before they will make settlement. The individual with incendiary designs wants his money right away. His enthusiasm is dampened by certainty of delay, with equal certainty that the loss will be carefully scrutinized. The ordinary individual, who relies on insurance to protect him from his own carelessness, is likely to be more careful in protecting himself under the moratorium.

The tabulated investigation record is as follows:

Investigations open July 1, 1932.....	678
New investigations assigned.....	933
Investigations closed.....	1,405
Cases open for further investigation July 1, 1933.....	206
Arrests.....	98
Indictments returned.....	143
"No True" bills returned.....	29
No indictments returned.....	7
Indictments nolle prossed.....	11
Indictments stricken with leave to reinstate.....	2
Re-indictments returned.....	6
Found guilty.....	91
Found not guilty.....	12
Cases dismissed.....	18
New trials granted.....	2

Convictions by counties were:

Adams.....	1	Kendall.....	2	Ogle.....	3
Cook.....	50	Lake.....	1	Peoria.....	4
Crawford.....	1	McHenry.....	1	Pike.....	1
Douglas.....	1	McLean.....	1	Rock Island.....	1
Fayette.....	2	Macon.....	2	Shelby.....	1
Franklin.....	5	Macoupin.....	1	Tazewell.....	1
Fulton.....	1	Madison.....	2	Wabash.....	2
Hardin.....	2	Marion.....	4	Whiteside.....	1

Special attention was devoted toward the close of the year to disposing of old cases. Those which held practically no prospect of success were stricken and efforts are being made to secure prosecution where the evidence warrants. The docket has been reduced to 206 open cases.

Generally speaking, State's attorneys have cooperated heartily with the division in handling arson cases and to them due credit is given. Some of them stand out conspicuously for their success in this line of work, which always has been regarded as difficult because circumstantial evidence must be relied on largely. A number of deputies have made outstanding records as investigators and all have worked fearlessly and tirelessly.

FIRE PREVENTION ACTIVITIES.

The summary of inspection work is as follows:

Number of inspections.....	4,948
Number of orders issued.....	1,065
Number of rechecks.....	2,531
Number of compliances.....	1,004
Number of removals.....	145
Number of arrests.....	
Fire Marshal Law.....	3
Gasoline Law.....	1

Because of the volume of arson investigations, inspection work necessarily was curtailed. Furthermore, due to the effects of the depression, fire prevention activities were carried on under most trying difficulties. Normal repairs and upkeep were generally deferred, pending better times. Property was allowed to depreciate everywhere. Vacant buildings multiplied, many were sold for taxes and countless properties were not bringing a fair return on the investment. Recommendations for improvements usually were greeted with the plea that there were no funds.

The division did not lower fire prevention standards, but tried to limit orders to strictly urgent hazards which could not safely wait. Corrections which could reasonably be deferred were deferred for attention later.

There always is a disposition to take a chance with features which involve safety in order to save costs. This is particularly true when times are hard.

A vacant building tempts someone to open a motion picture show because it can be obtained for a cheap rental. He figures on a capital investment of some seats, a projecting machine, booth and screen, giving little thought to the fact that the building requires considerable remodeling at quite an outlay to provide proper exit facilities.

Dance halls, night clubs and similar enterprises have sprung up in all sorts of buildings, some of them veritable fire traps. To install fire escape protection would be entirely beyond the means of the promoter and an expense hardly justified by his expected receipts.

Many have been lured by supposed large profits in dry cleaning or gasoline filling stations, without knowledge of the special hazards involved or funds with which to make proper installations.

It has been a struggle to make a living, with every possible cost avoided and every necessary cost kept at a minimum. Cheap, and in many cases unsafe, features of construction and installation result under these conditions.

Present indications are that brighter days are ahead. Fire prevention will keep pace with general recovery. Deferred repairs and improvements will be made. As business stabilizes, the misfits and those who cannot maintain proper standards will slip out of the picture. Good wages and steady work will be more attractive than the precarious returns from many doubtful business enterprises born of hard times.

But, "it is an ill wind which blows no good." Many people, who were not seriously affected by the depression, took advantage of low costs to make extensive improvements. The division encouraged this and secured gratifying results in a large number of cases. The times were also favorable for securing the removal of dilapidated old buildings, both an eyesore and a menace. Many of these were wrecked by persons eager to secure the salvage; others at slight cost to the owners.

There has been an abatement in the tremendous expansion of gasoline bulk and service stations. Indications are that the industry is stabilizing and that the development from now on will be along more orderly and economic lines. We contemplate a revision of our oil rules so as to bring them more up to date and to give proper recognition to modern safety devices.

The days of the gasoline curb pump appear to be numbered. Pioneer in the early days of dispensing gasoline to motorists, it gave way to the drive-in filling station, but it was brought back in the depression days because of competition of oil companies for new retail outlets and the desire of the retailer for an added source of revenue. The supreme court in a recent decision has held curb pumps to be an unlawful encroachment on public streets and an unlawful use of public streets for private gain.

LOSS OF LIFE.

To the monetary loss involved by fire must always be added the distressing loss in human life. Casualties reported during the year are:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	9	56	13	78
Females.....	12	37	6	55
Total.....	21	93	19	133

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	17	320	7	344
Females.....	11	109	12	132
Total.....	28	429	19	476

To be human is to be careless, it would seem. Despite warnings, people continue to use naphtha or similar volatiles for dry cleaning in the home. They are encouraged to do so by many manufacturers and distributors, which largely offsets the educational campaigns of the public authorities. Many of the deaths and injuries are caused by the explosion or ignition of the dangerous gas released during the cleaning process. The slightest spark is all that is necessary to touch off the gas, if it is mixed in the proper proportion with air. Many other casualties are caused by use of kerosene to start fires or hurry them along. The long list of tragedies which have occurred as a result of this practice seems not to have had a deterrent effect. Sheer carelessness about fire or things which cause fire are responsible for almost all deaths or injuries from burning.

FIRE COLLEGE.

The Ninth Annual Fire College, held at the University of Illinois June 20 to 23, inclusive, showed a registration of 342. The school is fully worthy of the name of college. Those attending were divided this year into two groups, according as their interest was in building inspection or hydraulics. A competent instructor was in charge of each group, lecturing on various phases of the subject each day. This was supplemented by practical work by the students themselves to demonstrate how much of the information they had mastered. The inspection group was turned loose on a building replete with hazards, to which others were cleverly added for the occasion, and turned in papers listing the hazards they detected.

The men were also divided into teams for drills and evolutions at the drill tower, with a competitive drill featuring the last day.

The college, the first of its kind in the country and now the pattern for similar schools in more than a score of states, has been improved along practical lines each year. It attracts a group of firemen and city

officials who are earnest and serious about the fire problem. It is becoming an ever increasing factor in stimulating the communities of the state to greater and more effective efforts in fire control.

EDUCATION AND PUBLICITY.

Fire Prevention Week was observed October 9 to 15, with the usual Statewide distribution of the Governor's proclamation and an attractive poster. Each year the observance of this week is more general and intensive. Through fire chiefs, local officials, chambers of commerce and civic clubs, the division stimulates activity in the various communities of the State, with splendid cooperation from insurance interests.

We maintained our usual educational booth at the State Fair and it was gratifying to note that many stopped to discuss their own fire prevention and fire protection problems.

Addresses about the State by the fire marshal and distribution of literature were carried on throughout the year.

It is hoped that funds some day will permit of a more comprehensive program of continuous and systematic education.

CONCLUSION.

The effects of the depression reduced our force of deputies to less than one half of the usual number. As a matter of necessity we will have to ask communities to assume a larger responsibility than hitherto in coping with the fire problem. This is something to be desired also as a practical proposition and is contemplated by the provision of the State fire marshal law which clothes local fire chiefs with the same authority as a deputy State fire marshal in inspecting buildings and ordering correction of hazards. A great deal of fire prevention work is routine and should be handled locally, leaving the division free to handle the larger matters.

Likewise, the law makes it the duty of fire chiefs to investigate all fires and report conclusions to the State fire marshal. Through organization of local arson squads we have encouraged more thorough investigation of fires. Many suspicious fires are cleared up by the local investigation and save the division a special investigation. Where circumstances warrant a State investigation, we have the advantage of first hand evidence gathered by the local investigation. Moreover, the certainty of a strict and immediate scrutiny of every loss by an alert chief and associates is a deterrent to crooked fires.

Our purpose is to utilize the cooperation of fire chiefs and to develop it to the highest possible efficiency.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1932 TO JUNE 30, 1933.

Total value of buildings in which fires have occurred.....	\$186,757,889
Total damage to said buildings.....	8,718,765
Total insurance on said buildings.....	92,222,829
Total value of personal property jeopardized by fire.....	37,065,466
Total damage to said personal property.....	4,551,049
Total insurance on said personal property.....	21,210,115
Total fire loss in the entire State of Illinois.....	13,269,814
Total number of fires in the entire State of Illinois.....	16,929

**AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING
INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE
CITY OF CHICAGO FROM JULY 1, 1932 TO JUNE 30, 1933.**

Total value of buildings in which fires have occurred.....	\$65,017,987
Total damage to said buildings.....	6,960,564
Total insurance on said buildings.....	39,966,034
Total value of personal property jeopardized by fire.....	23,967,413
Total damage to said personal property.....	3,750,073
Total insurance on said personal property.....	13,196,535
Total fire loss outside the city of Chicago.....	10,710,637
Total number of fires outside the city of Chicago.....	10,588

**AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING
INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY
OF CHICAGO FROM JULY 1, 1932 TO JUNE 30, 1933.**

Total value of buildings in which fires have occurred.....	\$121,739,902
Total damage to said buildings.....	1,758,201
Total insurance on said buildings.....	52,256,795
Total value of personal property jeopardized by fire.....	13,098,053
Total damage to said personal property.....	800,976
Total insurance on said personal property.....	8,013,580
Total fire loss in the city of Chicago.....	2,559,177
Total number of fires in the city of Chicago.....	6,341

**NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR
EACH MONTH OF THE FISCAL YEAR JULY 1, 1932 TO JUNE 30, 1933.**

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1932			1933		
July.....	1,260	\$ 775,415	January.....	1,460	\$1,187,204
August.....	1,009	846,446	February.....	2,137	1,496,630
September.....	1,091	1,015,138	March.....	1,770	1,380,333
October.....	1,302	773,284	April.....	1,222	951,182
November.....	1,581	1,296,930	May.....	898	471,571
December.....	1,914	2,234,351	June.....	1,254	826,967
*Supplement to December.....	22	14,397			
			Total.....	16,929	\$13,269,814

* Reports received too late to be classified under proper months.

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES, JULY 1, 1932 TO JUNE 30, 1933.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,140	\$ 891,433
Conflagrations.....	279	37,840
Electricity (except electric irons and similar small devices).....	1,522	774,555
Explosions.....	543	1,053,603
Exposure.....	683	747,244
Fireworks, fire crackers, balloons, etc.....	33	6,436
Friktion, sparks occasioned by running machinery.....	110	26,725
Gas, natural and artificial.....	109	23,372
Hot ashes and coals, open fires.....	264	132,650
Hot grease, oil, tar, wax, asphalt (ignition of).....	80	16,060
Hot irons, including electric devices.....	151	23,845
Incendiarism.....	277	567,335
Lightning—buildings rodde.....	6	1,000
Lightning—buildings not rodde.....	302	415,806
Matches, smoking.....	2,264	505,267
Miscellaneous—cause known, but not classified.....	455	386,644
Open lights.....	137	70,103
Petroleum and its products.....	720	278,959
Rubbish and litter.....	685	173,960
Sparks—arising from combustion.....	165	29,380
Sparks—on roofs.....	3,127	867,084
Spontaneous combustion.....	588	656,124
Steam and hot water pipes.....	33	3,745
Stoves, furnaces, boilers and their pipes.....	1,137	825,676
Unknown.....	1,879	3,876,749
Unknown origin, but investigation important.....	240	878,219
Total.....	16,929	\$13,269,814

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1932 TO JUNE 30, 1933.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,209	\$ 524,016
Amphitheatres, grand stands, etc.....	5	505
Bakeries.....	42	22,682
Barber shops.....	37	17,043
Barns and stables (not liveryes).....	683	1,095,881
Churches.....	62	391,762
Depots, stations, waiting rooms, etc.....	12	15,026
Dry cleaning establishments.....	27	26,203
Dry houses, kilns, rooms, etc.....		
Dwellings.....	7,484	4,827,821
Elevators and grain warehouses.....	15	727,360
Factories.....	236	925,241
Foundries.....	13	35,312
Garages.....	1,019	292,775
Granaries.....	65	40,190
Green houses.....	4	5,705
Halls, (lodge), (club), (dance), (public), etc.....	54	89,995
Hotels and boarding houses.....	71	153,634
Hospitals.....	11	3,618
Ice houses.....	9	100,952
Jails.....	2	700
Laundries.....	32	38,167
Liveryes.....		
Mills (flour).....	4	8,025
Mills (saw and planing).....	2	60,015
Office buildings.....	118	59,290
Oil houses.....	41	41,819
Photo studios.....	6	10,845
Power houses, pump houses and engine houses.....	24	86,560
Restaurants.....	127	124,943
Saloons.....	2	43
Sheds.....	751	209,859
Smoke houses.....	39	5,895
Silos.....	10	3,425
Stores.....	1,351	1,017,699
Shops, (carpenter, blacksmith, etc.).....	138	93,035
Schools, (colleges, seminaries, etc.).....	61	88,763
Theatres and motion picture houses.....	21	32,983
Warehouses.....	64	320,824
Miscellaneous.....	605	299,819
FIRES OTHER THAN BUILDINGS.		
Automobiles.....	1,251	73,743
Boats.....	8	6,605
Bridges.....	1	1,000
Cars, (railway), (electric), etc.....	81	85,465
Docks, (coal), etc.....	6	16,549
Fences.....	14	248
Grain and hay.....	54	2,478
Junk yards.....	22	8,865
Lumber yards.....	22	147,870
Tanks (water), etc.....	11	224,536
Tents.....		
Threshing outfits.....	1	300
Trestles.....	2	4,025
Wagons.....		
Total.....	16,929	\$13,269,814

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF
ILLINOIS, JULY 1, 1932 TO JUNE 30, 1933.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	162	\$ 96,980	Livingston.....	96	\$ 88,187
Alexander.....	45	10,647	Logan.....	69	50,046
Bond.....	33	64,077	Macon.....	167	64,959
Boone.....	23	28,830	Macoupin.....	114	101,270
Brown.....	20	20,425	Madison.....	344	597,239
Bureau.....	112	98,223	Marion.....	65	48,899
Calhoun.....	3	15,500	Marshall.....	19	22,815
Carroll.....	29	63,647	Mason.....	38	64,635
Cass.....	81	50,863	Massac.....	20	55,938
Champaign.....	224	124,386	McDonough.....	126	131,113
Christian.....	99	115,154	McHenry.....	99	265,543
Clark.....	72	75,075	McLean.....	195	179,318
Clay.....	16	21,037	Menard.....	28	22,468
Clinton.....	23	22,344	Mercer.....	43	35,921
Coles.....	221	108,391	Monroe.....	12	7,508
Cook.....	7,308	3,787,655	Montgomery.....	98	100,222
Crawford.....	66	106,929	Morgan.....	100	275,011
Cumberland.....	27	21,454	Moultrie.....	34	19,660
DeKalb.....	96	198,870	Ogle.....	57	87,226
DeWitt.....	16	35,647	Peoria.....	438	485,659
Douglas.....	64	77,947	Perry.....	41	20,974
DuPage.....	109	266,734	Piatt.....	37	34,905
Edgar.....	91	97,643	Pike.....	46	69,442
Edwards.....	4	70	Pope.....	21	17,613
Effingham.....	43	62,882	Pulaski.....	27	31,235
Fayette.....	58	45,451	Putnam.....	12	12,507
Ford.....	33	19,772	Randolph.....	15	17,943
Franklin.....	140	197,649	Richland.....	42	21,193
Fulton.....	155	155,489	Rock Island.....	374	209,500
Gallatin.....	21	19,427	Saline.....	156	86,644
Greene.....	48	26,509	Sangamon.....	351	406,692
Grundy.....	26	28,712	Schuyler.....	20	33,442
Hamilton.....	39	26,287	Scott.....	13	16,889
Hancock.....	80	97,566	Shelby.....	86	70,852
Hardin.....	4	1,045	Stark.....	20	10,260
Henderson.....	17	5,305	St. Clair.....	437	365,657
Henry.....	193	75,072	Stephenson.....	57	104,393
Iroquois.....	83	44,686	Tazewell.....	130	81,947
Jackson.....	118	80,288	Union.....	13	19,305
Jasper.....	36	137,510	Vermilion.....	275	220,823
Jefferson.....	109	72,884	Wabash.....	39	17,181
Jersey.....	17	12,585	Warren.....	55	42,933
JoDaviss.....	39	42,089	Washington.....	30	11,220
Johnson.....	2	1,670	Wayne.....	36	27,592
Kane.....	401	336,073	White.....	46	60,618
Kankakee.....	114	63,082	Whiteside.....	169	111,182
Kendall.....	17	9,753	Will.....	242	303,846
Knox.....	106	90,204	Williamson.....	189	125,734
Lake.....	278	257,888	Winnebago.....	219	117,330
LaSalle.....	291	346,922	Woodford.....	34	42,999
Lawrence.....	66	37,438			
Lee.....	57	52,560	Total.....	16,929	\$13,269,814

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HENRY HORNER, Governor



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SEVENTEENTH ANNUAL REPORT

OF

DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

July 1, 1933
TO
June 30, 1934

[Reprint from First Annual Report Department of Insurance. Printed by authority of the State of Illinois.]

STATE OF ILLINOIS

HENRY HORNER, Governor



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SEVENTEENTH ANNUAL REPORT

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ERNEST PALMER, Director

SHERMAN V. COULTAS, Fire Marshal

THE PRINCIPLES
OF THE ARTS AND
MANUFACTURES 7

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1933/34

DIVISION OF FIRE PREVENTION.

SHERMAN V. COULTAS, *Fire Marshal.*

The fire loss in Illinois for the year aggregated \$19,476,606, which is higher than that of the preceding year by \$6,206,792. This sharp increase came at a time when fire loss trends generally were downward throughout the country and is accounted for almost entirely by the Chicago stockyards fire of May 19, 1934, a major conflagration which consumed property estimated at \$6,000,000. The State arsenal fire of February 18, 1934, which was incendiary, contributed materially toward the increase. The loss was reported officially by the Springfield fire department as \$350,000, but replacement will cost many times that sum.

LOSSES BY YEARS.

Fire losses in Illinois since departmental organization under the Civil Administrative Code follow:

Year.	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814
1933-1934.....	18,537	19,476,606

LARGE FIRES OF THE YEAR.

CHICAGO STOCKYARDS.

The fire which swept a portion of the Union Stockyards and vicinity in Chicago May 19, 1934 was the largest conflagration as to the extent of burned area Illinois has had since the historic Chicago fire of 1871. It also was one of the largest as to financial loss. It involved pens, runways, sheds, horse barns and miscellaneous buildings connected with this section of the stockyards, besides business and manufacturing buildings and dwellings in the immediate vicinity. Important contributing factors to the severity of the fire were a long continued drought, frame

construction of runways and storage of a considerable amount of hay. Eighty per cent of the pens and runways were destroyed, together with about 600 head of cattle and some horses. A few important buildings escaped total destruction, but the most fortunate suffered a fifty per cent loss. The others ran from sixty to eighty per cent. The estimated financial loss was six million dollars. The probable cause was a lighted cigaret, supposedly tossed from an automobile passing over a frame viaduct. The watchman who discovered the fire and gave the alarm was struck down and burned to death, so rapidly did the fire become a roaring conflagration.

The Chicago fire department gave a splendid example of scientific fire fighting. Main resources of the fire department were placed ahead of the flames. The balance attacked the blaze from the flanks and narrowed it up so that it finally could be stopped up ahead. All during the fire special details of men wet down roofs well ahead of the flames to protect them from flying embers.

Outstanding factors in the control of this fire were these:

- (1) Unity of fire department command.
- (2) Efficiency of operation and determination of fire department in combating the fire.
- (3) Cooperation of the water department in maintaining satisfactory water pressure.

While the cause of the fire was common carelessness, the reason for the conflagration was frame construction of pens and runways. Hence one of the big lessons of this fire is the importance of fireproof construction in dense, high value districts, or in special areas such as this, where combustible construction invites conflagration.

STATE ARSENAL FIRE.

On Sunday, February 18, 1934, the State was electrified by news that the State Arsenal had caught fire and was a total loss. Ten days later people everywhere were amazed to learn that a ten year old boy had confessed the burning.

The building was popularly supposed to be fireproof because of its brick walls, faced with stone, and steel superstructure. Not many weeks before the fire the Department turned down a proposed seating arrangement for an entertainment which was to attract thousands. One of the promoters ridiculed the idea that there was any danger from fire, declaring that the building could not burn.

Fire started during the noon hour in a combustible curtain which was hung across the big hall toward the rear. It was discovered promptly and reported to the city fire department located directly across the street. By the time the firemen got their hose into the building a pile of stacked chairs was on fire and flames were leaping near the roof. Before water could be turned on there was a muffled explosion near the top of the building. Flames enveloped the structure and caused the firemen to retreat to save their lives.

The roof was wooden, covered with built up roofing paper. A stiff gale swept through the building and fanned the flames. Unprotected steel formed the roof supports, which buckled and fell in twisted masses,

showing the inability of exposed steel to withstand serious fires. Had this building been crowded with thousands of people, as it had been on so many occasions, the casualties would have been terrific.

There was no plausible explanation for the fire. It developed that a small boy had been ejected from the building during the morning because he had a cigaret. About noon a boy of the same description came out of a toilet in the arsenal and reported a fire in a rubbish can there. Shortly before this there was another rubbish can fire in the rear of a nearby store and again a boy of the same description reported the blaze to the proprietor. The lad was finally identified and apprehended and made a complete confession of all the fires. He said he lit the curtain with burning paper and gave no motive except that he liked to see fire. Later he admitted he was "sore" at the custodian for ejecting him at various times.

This boy had been before the juvenile authorities of the county about a year previously because of delinquencies. Social workers compiled a complete case record with recommendations but no disposition was made. After the fire, State psychologists studied the case and recommended institution treatment. Before their report was filed, the county judge turned the boy over to his father, who took him to a ranch in the southwest. The boy's parents separated several years ago and the father subsequently remarried, the boy living with his mother in the interval.

The fire illustrates the importance of strictly fireproof public buildings and also the importance of strictly fireproof storage of public records. One of the greatest losses in this fire was the individual records of thousands of men and women who served in the World War. They were kept in ordinary steel filing cases which could not protect their contents from the terrific heat.

FIRE PREVENTION ACTIVITIES.

As heretofore stated, the trend of fire losses has been to lower levels. This has been due to a great extent to lower property values, caused by economic disturbances of the depression. The record shows that the same well known causes continue to be responsible for the largest losses in substantially the same proportion. The conspicuous causes for the year were:

Causes.	Number of fires.	Loss
Sparks on roofs.....	4,207	\$1,312,670
Electricity.....	1,521	841,234
Explosions.....	401	758,799
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,349	725,056
Incendiarism.....	188	526,244
Matches—smoking.....	2,345	*473,115
Exposure.....	852	460,443
Stoves, furnaces, boilers and their pipes.....	920	448,408

* Chicago stockyards loss, if due to cigarette, would increase this to \$6,473,115.

CLASSES OF PROPERTY SUFFERING GREATEST LOSSES.

Classes.	Number of fires.	Loss.
Stockyards.....	1	\$6,000,000
Dwellings.....	8,330	4,373,937
Stores.....	1,007	1,497,481
Barns and stables.....	700	1,170,916
Factories.....	279	774,987
Schools and colleges.....	88	757,954
Elevators and grain warehouses.....	14	653,060
Apartments.....	2,621	645,359

Our division has been operating with a field force of thirteen men, due to reduced income. This is a little less than half the number formerly employed and is one-third of the number employed during prosperous years. With this small force we have had to handle arson investigations as well as fire prevention problems in the one hundred and two counties of the State. It is apparent that a much larger degree of responsibility must be accepted and discharged by local authorities.

It is generally accepted that seventy-five to ninety per cent of fire waste is unnecessary and is due simply to carelessness or negligence of the average individual with things which involve fire hazard. Human nature cannot be controlled to the extent that carelessness can be eliminated, although educational campaigns can accomplish a great deal, especially with children. A high degree of control may be exercised, however, through municipal regulations, enforced by systematic inspection of property by local fire officials.

There has been a tendency for many years for states to assume the exercise of more and more powers. There has been a corresponding tendency for municipalities to shift more and more of their responsibilities on the State, although very jealous at the same time to preserve their full home rule powers. In its efforts to be as helpful as possible to cities and villages, the division in the past has undertaken a great deal of fire prevention work which properly was a matter of local routine inspection. This is no longer possible.

Cities and villages are vested with broad powers over building construction and fire regulations. The State fire marshal law explicitly provides that none of its provisions shall be construed to affect or repeal any local ordinances on these subjects, but that in such cases the jurisdiction of the State fire marshal shall be concurrent with that of the local authorities. The law also gives local fire chiefs and mayors (where there are no fire chiefs) the same authority as that of a deputy State fire marshal in inspecting buildings and ordering correction of hazards.

The fire loss of the State never will be materially reduced until there is an aggressive program of fire prevention in the hundreds of communities which make up the State. Control, to be effective, must be local. It starts when a permit is issued for a building, for a heating plant, for an electrical installation, for repairs and alterations. It starts when a license is sought for a dance hall, a moving picture theatre or other enterprises which require buildings to be not only safe, but provided with adequate exit facilities. It continues through keeping proper-

ties under inspection so as to detect fire hazards and unsafe conditions as they develop and require their correction before they cause trouble. Adequate ordinances and real administration of them will provide effective control. We feel it to be an important part of our work to encourage and develop such local programs, leaving us free to help cities and villages in their special problems and to devote particular attention to communities where there has been a serious break-down in regulation.

The outstanding fire chiefs in the State are those who are working day by day to prevent fires by keeping business and other important property under constant scrutiny. There are a number of them and it is a pleasure to cooperate with them.

Almost all of our inspections last year were special inspections, made as a result of complaint or by request of local officials. The record is as follows:

Number of inspections.....	2,750
Number of orders issued.....	666
Number of rechecks.....	1,975
Number of compliances.....	601
Number of removals.....	167
Number of arrests:	
Fire Marshal Law.....	3
Gasoline Law	1

Removals are compliances which are listed separately because they represent dilapidated buildings which were razed entirely. They are the familiar type of building common to most communities, which have gone to rack and ruin and which endanger entire neighborhoods. The record is particularly good in this regard.

RULES ON GASOLINE AND OILS.

By statute the Department is charged with regulating gasoline and volatile oils, except in cities and villages which had valid ordinances in force at the time the statute became effective, July 1, 1919. A complete revision of the rules has been made, taking effect July 1, 1934. Safety equipment which has been developed the last few years has been made the basis of regulation for above-ground storage tanks and some of the arbitrary restrictions previously imposed have been discarded. We feel that the new rules are reasonable and in keeping with the safety standards which have been developed by the industry itself. We expect full cooperation from the industry in their administration and are confident that the rules will be sustained by the courts if necessary. We advise cities and villages to adopt zoning ordinances so as to restrict locations, especially of bulk storages.

ARSON INVESTIGATIONS.

The arson situation has been much easier in Illinois and throughout the nation. "Moral risk"—a term used by underwriters to describe the tendency of hard pressed individuals to burn their property during hard times for the insurance—has shown a great improvement. The improvement was noted a year ago. This has been due to a general improvement in business conditions, reduction by insurance companies of their coverage where conditions warranted, and careful scrutiny of

losses by the companies and deliberation in adjusting doubtful ones. Most frequent suspicious losses have occurred in dwellings and farm property, many owners of which have suffered severely from the depression.

There always is some professional arson and just as the year closed we were successful after weeks of effort in turning up a ring of crooks who have operated on a large scale in Chicago. Advance information enabled us to spring a trap as a fire was about to be set. Confessions followed. As the investigation proceeded revelations were secured which involve other rings. It appears that a great many fires in Chicago and some downstate will be cleared up, involving scores of individuals and thousands and thousands of dollars in fraudulent losses. In one fire a life was lost and indictment for murder will no doubt follow. More cannot be revealed at this time, but the State's attorney of Cook County is cooperating whole-heartedly and a thorough clean-up of organized arson in Chicago and Cook County is in prospect.

The tabulated record of investigations is as follows:

Investigations open July 1, 1933.....	206
New investigations assigned.....	846
Investigations closed.....	785
Cases open for further investigation July 1, 1934.....	267
Arrests.....	89
Discharged from custody.....	3
Indictments returned.....	89
"No True" bills returned.....	15
No indictments returned.....	3
Indictments nolle prossed.....	5
Indictments stricken with leave to reinstate.....	2
Re-indictments returned.....	3
Found guilty.....	55
Found not guilty.....	11
Cases dismissed.....	11
Jury discharged, unable to agree.....	2
Mistrial directed by court.....	3

Convictions by counties were:

Alexander.....	1	Jersey.....	1	Mercer.....	4
Coles.....	1	LaSalle.....	1	Rock Island.....	2
Cook.....	19	Lawrence.....	1	Saline.....	2
Crawford.....	1	Logan.....	2	Sangamon.....	4
Douglas.....	1	Marion.....	2	Shelby.....	2
DuPage.....	1	Mason.....	3	Fazewell.....	1
Jackson.....	1	McLean.....	4	Winnebago.....	1

A number of Cook County convictions represent the clean-up of a racket unearthed in Chicago a year ago, wherein the same load of charred furniture was "planted" in various buildings to support a loss claim, after a slight fire had been permitted to do some damage to the premises.

Exceptional work was done by some of the deputies in clearing up burnings and cooperation of State's attorneys generally has been excellent.

LOSS OF LIFE.

Casualties so far as the division was able to ascertain were:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	8	53	8	69
Females.....	6	32	17	55
	14	85	25	124

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	17	341	5	363
Females.....	18	76	7	101
	35	417	12	464

This list is no doubt incomplete, as we have no way to require the reporting of deaths and injuries. We rely on voluntary reports of fire chiefs and on newspaper clippings. Contrary to popular belief, relatively few casualties occur in burning buildings. They are due to ordinary mishaps. Ignition of clothing from bonfires or open lights, use of naphtha for dry cleaning at home, pouring of kerosene into stoves to hurry up fires, careless use of matches, especially in proximity to gasoline—these are some of the predominant causes. Carelessness again exacts its tragic price as people year after year take a chance and parents fail to educate their children not to play with or around fire.

FIRE COLLEGE.

The Tenth Annual Fire College, sponsored by the Illinois Firemen's Association and the University of Illinois, with the division cooperating, was held at the University June 19, 20, 21 and 22. A registration fee of fifty cents was charged this year as the first step to make the college self-supporting. The division hitherto has paid the expenses and guaranteed them this year, but our own decreased revenue has been making this increasingly difficult.

The success of the college has been such that it is now proposed to hold regional schools about the State each year, bringing the college to the firemen. This would enable firemen in all parts of the State who are unable to go to the University to have many of the benefits of the college. It would stimulate communities throughout Illinois to a greater and more efficient effort in controlling fire waste and no doubt would encourage a greater attendance at the college itself.

EDUCATION AND PUBLICITY.

If carelessness is responsible for most fires, then the public must be appealed to constantly to win popular cooperation in preventing fires. A person who feels sense of personal responsibility along these lines seldom has a fire. He is careful in his habits and does not allow common hazards to accumulate around his premises. Our effort is to develop this sense of personal responsibility among as many people as possible.

Fire Prevention Week, observed annually in the week in which the anniversary of the Chicago fire of October 9, 1871, falls, is devoted to concentrated efforts along this line. It was observed October 8 to 14. We made our usual distribution of the Governor's proclamation and of an attractive poster throughout the State, devoting special attention to the schools, as best results are secured with children in their habit

forming years. Fire chiefs cooperated thoroughly, many of them using unique methods to arouse interest. Civic clubs opened their forums to fire prevention programs, at a number of which the fire marshal was speaker.

We took advantage of the State Fair to conduct an educational booth and discuss fire prevention problems with visitors. We have plans for a larger booth and a more elaborate display this year.

A number of addresses were made by the fire marshal and others in the division during the year. Further work was done by press releases and distribution of literature.

STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1933 TO JUNE 30, 1934.

Total value of buildings in which fires have occurred.....	\$197,131,860
Total damage to said buildings.....	8,891,971
Total insurance on said buildings.....	110,430,790
Total value of personal property jeopardized by fire.....	47,095,814
Total damage to said personal property.....	4,584,635
Total insurance on said personal property.....	23,828,441
Total fire loss in the entire State of Illinois.....	*13,476,606
Total number of fires in the entire State of Illinois.....	18,537

* Chicago Stock Yards loss \$6,000,000, making a total loss of \$19,476,606.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1933 TO JUNE 30, 1934.

Total value of buildings in which fires have occurred.....	\$89,085,779
Total damage to said buildings.....	7,407,541
Total insurance on said buildings.....	53,741,928
Total value of personal property jeopardized by fire.....	30,172,408
Total damage to said personal property.....	3,720,372
Total insurance on said personal property.....	12,453,048
Total fire loss outside the city of Chicago.....	11,127,913
Total number of fires outside the city of Chicago.....	11,738

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1933 TO JUNE 30, 1934.

Total value of buildings in which fires have occurred.....	\$108,046,081
Total damage to said buildings.....	1,484,430
Total insurance on said buildings.....	56,688,862
Total value of personal property jeopardized by fire.....	16,923,406
Total damage to said personal property.....	864,263
Total insurance on said personal property.....	11,375,393
Total fire loss in the city of Chicago.....	*2,348,693
Total number of fires in the city of Chicago.....	6,799

* Stock Yards loss \$6,000,000, making a total loss of \$8,348,693.

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1933 TO JUNE 30, 1934.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1933			1934		
July.....	991	\$ 802,950	January.....	1,752	\$1,452,302
August.....	1,190	956,133	February.....	2,394	1,982,436
September.....	845	836,624	March.....	1,709	1,360,421
October.....	1,247	902,320	April.....	1,864	1,326,676
November.....	1,896	899,305	May.....	1,644	*906,374
December.....	1,964	1,371,784	*Chicago Stock Yards loss.....		6,000,000
			June.....	1,041	649,281
			Total.....	18,537	\$19,476,606

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1933 TO JUNE 30, 1934.

Cause.	Number.	Damage.
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,349	\$725,056
Conflagrations.....	295	66,708
Electricity (except electric irons and similar small devices).....	1,521	841,234
Explosions.....	401	758,799
Exposure.....	852	460,443
Fireworks, fire crackers, balloons, etc.....	28	6,226
Friction, sparks occasioned by running machinery.....	32	22,190
Gas, natural and artificial.....	153	110,747
Hot ashes and coals, open fires.....	259	63,897
Hot grease, oil, tar, wax, asphalt (ignition of).....	111	150,781
Hot irons, including electric devices.....	182	85,785
Incendiarism.....	188	526,244
Lightning—buildings rodded.....	9	6,075
Lightning—buildings not rodded.....	212	289,202
Matches, smoking.....	2,345	473,115
Miscellaneous—cause known but not classified.....	342	150,116
Open lights.....	330	60,089
Petroleum and its products.....	915	340,728
Rubbish and litter.....	929	270,090
Sparks—arising from combustion other than next item).....	219	69,841
Sparks—on roofs.....	4,207	1,312,670
Spontaneous combustion.....	548	344,481
Steam and hot water pipes.....	22	975
Stoves, furnaces, boilers and their pipes.....	920	448,408
Unknown.....	2,016	5,388,528
Unknown origin, but investigation important.....	182	504,178
Chicago Stock Yards loss, not classified.....	-----	6,000,000
Total.....	18,537	\$19,476,606

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED ACCORDING TO THE PROPERTY DESTROYED—JULY 1, 1933 TO JUNE 30, 1934.

Class of property.	Number.	Damage.
Apartment houses, flats and rooming houses.....	2,621	\$ 645,359
Amphitheatres, grand stands, etc.....	3	10,250
Bakeries.....	36	12,245
Barber shops.....	37	8,556
Barns and stables (not liveryes).....	700	1,170,916
Churches.....	53	229,621
Depots, stations, waiting rooms, etc.....	18	33,125
Dry cleaning establishments.....	24	3,093
Dry houses, kilns, rooms, etc.....	2	2,249
Dwellings.....	8,330	4,373,937
Elevators and grain warehouses.....	14	653,060
Factories.....	279	774,987
Foundries.....	31	11,356
Garages.....	1,082	447,265
Granaries.....	71	88,481
Green houses.....	10	16,846
Halls, (lodge) (club) (dance) (public), etc.....	54	535,965
Hotels and boarding houses.....	217	131,077
Hospitals.....	10	1,991
Ice houses.....	5	248
Jails.....	-----	-----
Laundries.....	20	4,460
Liveryes.....	3	450
Mills (flour).....	4	100,265
Mills (saw and planing).....	4	585
Office buildings.....	146	193,405
Oil houses.....	54	39,407
Photo studios.....	5	5,985
Power houses, pump houses and engine houses.....	24	50,990
Restaurants.....	180	169,960
Saloons.....	38	15,859
Sheds.....	740	125,376
Smoke houses.....	44	6,254

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM—Concluded.

Class of property.	Number.	Damage.
Silos	10	\$ 3,449
Stores	1,007	1,497,481
Shops, (carpenter, blacksmith, etc.)	53	77,031
Schools, (colleges, seminaries, etc.)	88	757,954
Theatres and motion picture houses	25	95,875
Warehouses	100	466,936
Miscellaneous	672	327,061
FIRES OTHER THAN BUILDINGS.		
Automobiles	1,383	\$ 85,069
Boats	10	27,978
Bridges	8	39,203
Cars, (railway) (electric) etc	83	28,065
Docks, (coal) etc	2	5,015
Fences	36	539
Grain and hay	94	8,189
Junk yards	45	73,363
Lumber yards	12	90,780
Tanks (water) etc	6	25,560
Tents	2	150
Threshing outfits	6	2,925
Trestles	2	125
Wagons	4	235
Chicago Stock Yards loss, not classified		6,000,000
Total	18,537	\$19,476,506

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS—JULY 1, 1933 TO JUNE 30, 1934.

Counties.	Number.	Damage.	Counties.	Number.	Damage.
Adams	265	\$ 181,063	Iroquois	85	87,607
Alexander	46	76,152	Jackson	123	89,843
Bond	17	18,402	Jasper	32	7,679
Boone	35	49,784	Jefferson	129	55,976
Brown	26	16,308	Jersey	39	54,431
Bureau	105	65,803	JoDaviess	49	48,930
Calhoun	2	4,200	Johnson	1	1,200
Carroll	59	58,068	Kane	486	482,826
Cass	60	16,011	Kankakee	183	134,478
Champaign	273	172,165	Kendall	26	43,877
Christian	130	56,750	Knox	173	156,045
Clark	76	55,327	Lake	299	340,222
Clay	10	10,310	LaSalle	323	150,788
Clinton	31	78,262	Lawrence	85	56,268
Coles	224	81,441	Lee	75	48,917
Cook	7,892	10,199,069	Livingston	117	78,676
Crawford	47	65,310	Logan	104	85,243
Cumberland	19	39,308	Macon	199	153,975
DeKalb	164	157,842	Macoupin	131	85,487
DeWitt	58	53,992	Madison	384	216,026
Douglas	68	60,657	Marion	91	54,298
DuPage	116	204,722	Marshall	34	70,330
Edgar	121	202,792	Mason	42	71,614
Edwards	18	10,730	Massac	8	17,315
Effingham	34	28,935	McDonough	126	168,936
Fayette	46	30,505	McHenry	80	140,255
Ford	50	48,947	McLean	160	225,717
Franklin	109	141,822	Menard	29	13,296
Fulton	142	83,850	Mercer	51	60,365
Gallatin	26	18,703	Monroe	12	8,995
Greene	51	42,244	Montgomery	121	65,342
Grundy	28	32,145	Morgan	66	22,486
Hamilton	35	30,170	Moultrie	47	8,380
Hancock	97	84,346	Ogle	59	65,919
Hardin	7	845	Peoria	369	363,336
Henderson	16	15,438	Perry	63	56,346
Henry	193	76,446	Piatt	45	32,009

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF
ILLINOIS—JULY 1, 1933 TO JUNE 30, 1934—Concluded.

Counties.	Number.	Damage.	Counties.	Number.	Damage.
Pike.....	55	\$5,062	Tazewell.....	156	93,901
Pope.....	18	18,290	Union.....	11	39,775
Pulaski.....	38	30,267	Vermilion.....	355	339,093
Putnam.....	11	19,565	Wabash.....	27	25,669
Randolph.....	32	57,812	Warren.....	63	76,164
Richland.....	44	32,684	Washington.....	31	15,548
Rock Island.....	305	153,906	Wayne.....	47	36,993
Saline.....	201	125,397	White.....	47	39,627
Sangamon.....	339	771,583	Whiteside.....	165	107,970
Schuyler.....	15	20,103	Will.....	306	255,495
Scott.....	21	8,221	Williamson.....	268	124,168
Shelby.....	91	60,696	Winnebago.....	209	187,584
Stark.....	30	32,590	Woodford.....	37	30,473
St. Clair.....	411	210,255			
Stephenson.....	62	\$5,418	Total.....	18,537	\$19,476,606

THE DEPT OF THE
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STATE OF ILLINOIS

HENRY HORNER, Governor



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EIGHTEENTH ANNUAL REPORT

OF

DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

July 1, 1934

TO

June 30, 1935

[Reprint from Second Annual Report Department of Insurance. Printed by authority of the State of Illinois.]

STATE OF ILLINOIS

HENRY HORNER, Governor



EIGHTEENTH ANNUAL REPORT

OF

DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

July 1, 1934

TO

June 30, 1935

ERNEST PALMER, Director

SHERMAN V. COULTAS, Fire Marshal



(62843)

DIVISION OF FIRE PREVENTION.

ANNUAL REPORT OF SHERMAN V. COULTAS, *Fire Marshal*.

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The Illinois fire loss for the year, as officially reported to the Division of Fire Prevention by local reporting authorities, not only showed a reduction of more than 56 per cent from that of the preceding year, but was the lowest annual loss recorded in the history of the State Fire Marshal. The figure was \$8,549,703 and the number of fires was 14,045.

LOSSES BY YEARS.

The comparative table of Illinois fire losses since departmental organization under the Civil Administrative Code is as follows:

Year. (Ending June 30 each year)	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814
1933-1934.....	18,537	19,476,606
1934-1935.....	14,045	8,549,703

Numerous reasons have been advanced for the unprecedented drop in the fire loss this year. For one thing, there were no large conflagrations, while in the preceding year both the Chicago Stockyards and State Arsenal fires occurred. Another noteworthy fact was the steady decline in incendiary losses to a point where they were only a nominal feature of the year's record. Losses of this character swept the State during the early years of the depression. To meet the situation the Division has maintained a continuous drive on arson, culminating this year in 70 convictions and the complete smashing of a formidable arson ring. No doubt this has had a wholesome effect in curbing burnings of this class.

Business conditions have been on the upgrade and this unquestionably contributed to the favorable showing. The fact that there has been a sharp trend to lower fire loss records throughout the country would

indicate that there are underlying causes in a general toning up of the economic situation.

Fire losses always go up during hard times. Many business men, unable to weather the storm, burn out in order to salvage what they can from fire insurance. Many home owners and farmers do likewise. Fires also multiply from natural causes because property owners are financially unable to keep up repairs and gradually lose their interest and pride in upkeep. Federal emergency measures have done much to relieve the mortgage situation, increase farm income and stimulate employment and, while doing these things, the government has provided direct relief to those in dire distress. Despair has given way to hope and confidence in the upbuilding process. Employment has improved and business is better. Again the desire has returned to the individual to protect and conserve his possessions. I believe the tremendous decrease in fire losses is evidence of substantial progress in economic recovery.

Certain factors in the general liquidation brought about by the depression would tend to cause some reduction in fire losses. Inflated values necessarily were wiped out. This would be reflected in lower values of property destroyed by fire. No doubt most of those who took the fire route did so during the earlier days of the depression. Careful insurance underwriting and adjustment of losses doubtless have curbed losses also.

There is one other factor. A great many persons have been obliged to reduce their insurance protection drastically or cancel it altogether. This required them to exercise diligent care in conserving their property from fire. Carelessness is the underlying cause of the great majority of fires. Carefulness is the first rule of fire prevention.

All of the conditions sketched briefly above, as well as others, no doubt contributed in their way toward producing the new "low" in fire losses recorded in this State. We are encouraged to intensify our efforts in all branches of fire prevention to make this the starting point for permanently lower loss levels. If this can be brought about, an important achievement in conservation will be attained and our people will no doubt be rewarded by a corresponding reduction in insurance rates.

INVESTIGATION OF INCENDIARY FIRES.

The record of 70 convictions is one of the most substantial in the history of the State Fire Marshal's office. The arson ring which was smashed was one of the most formidable and menacing ever encountered. To date 135 indictments have been returned, involving 65 individuals, and 29 have been convicted.

This ring operated in Chicago, although we have information which indicated that it extended its activities down-State on occasion. When we secured our initial "tip" some 18 months ago, we went to work quietly and secretly, with agents of the National Board of Fire Underwriters and the State's Attorney of Cook County cooperating. Information was built up which revealed the leaders and their aides, their methods of operation and details of many fires which had been set previously. Finally the trap was ready to be sprung. A fire was

scheduled to be set and we had advance information. The participants were taken in the act and hustled to the State's Attorney's office. Confessions were forthcoming. Others were brought in and additional revelations followed. Energetic action of the State's Attorney brought speedy indictments and convictions.

It has been estimated that the insurance companies were defrauded out of at least a million dollars by this gang. Fires which hitherto had not excited suspicion, as well as numerous questionable losses, were cleared up.

There was one main ring, with other rings operating on the outside of it. There was the usual organization—the "torches," who set the fires; the layout men, who prepared the building with combustible material so that it was ready for the "touch;" the public adjusters, solicitors and crooked insurance men. The principal business was that of setting fires for persons and firms who were hard pressed financially.

A 62 year old woman, referred to in the newspapers as "Grandma," the "Arson Queen," and the "Boss of the Million Dollar Arson Ring," seems to have invented the type of touch-off which commonly was used. A piece of lamp wick was rolled lengthwise into a tube about four inches long and sewed together, and a handful of matches was tied around the tube at the top, heads down. The device was hung by a thread over a nail. The wick was lighted at the lower end and the blaze snuffed out. It smouldered and gradually burned up to the match heads. The blazing match heads burned the tie which held them around the tube and scattered themselves into paper and flammable material below, connected to which were combustible trailers which carried the fire to various parts of the building. This woman confessed that she received fees ranging from \$150 upwards for touching off fires and that she received \$10 to \$75 each for furnishing wicks when others made the touch-offs.

One member of the ring had a business connection which enabled him to learn of properties on which mortgages were to be foreclosed. The owners became "prospects," whom he would approach on the proposition of a crooked fire. In some cases it appeared that the ring bought property at a foreclosure sale and later burned it.

The confessions included an amazing tale that one assured was robbed by a ring after he had paid them \$5,000 for successfully firing his place of business. Four members of the ring were said to have posed as representatives of the State Fire Marshal's office, kidnaped him and forced him to turn over a large share of his insurance money.

The Division also was instrumental in rounding up a pyromaniac who created terror by firing a large number of apartments in a Chicago district.

Convictions by counties were:

Coles	1	LaSalle	2	Moultrie	1
Cook	41	Lee	1	Peoria	1
Christian	1	Logan	3	Perry	1
Franklin	1	Madison	2	Pulaski	1
Jackson	1	Mason	1	Rock Island	2
Jasper	2	Massac	2	Sangamon	1
Kane	1	Morgan	3	Woodford	1

The tabulated investigation summary follows:

Investigations open July 1, 1934.....	267
New investigations assigned.....	625
Investigations closed.....	543
Cases open for further investigation July 1, 1935.....	349
Arrests.....	63
Indictments returned.....	93
"No True" bills returned.....	9
Indictments nolle prossed.....	25
Indictments stricken with leave to reinstate.....	36
Indictments quashed.....	1
Found guilty.....	70
Found not guilty.....	12
Confessions.....	30
Cases dismissed.....	9
New trials granted.....	2
Reversed.....	1
Reversed and remanded.....	1
Sentenced on other charges.....	4
Placed under juvenile supervision.....	3

FIRE PREVENTION ACTIVITIES.

Inspection work was carried on under the Fire Marshal Law and various direct statutes pertaining to fire hazards and fire safety. Owing to our limited number of deputies, practically all of this work is done on the basis of complaint or request, either from local officials or individuals. It is no longer possible to maintain systematic inspections by routing deputies through the various communities of the State at regular intervals because our field force consists only of ten deputies down-State and three in Chicago. These men must combine arson investigations and fire inspections. Therefore we have been encouraging local officials to take care of routine inspection matters and to organize local fire prevention work on a systematic basis, calling on our office only in emergencies or where State assistance is required. As a matter of fact, we feel that this is the real intent of the State Fire Marshal Law. We feel also that it is the practical way to handle the fire problem, as real results cannot be secured in any community unless there is energetic local effort.

The summary of inspection activities is as follows:

Number of inspections.....	4,749
Number of orders issued.....	820
Number of rechecks.....	1,839
Number of compliances.....	465
Number of building removals.....	142
Number of arrests:	
Fire Marshal Law.....	12
Gasoline Law.....	6
Dry Cleaning violations.....	1
Red Can Gasoline Act.....	5
Number of fines:	
Fire Marshal Law.....	3
Gasoline Law.....	4
Dry Cleaning violations.....	1
Red Can Gasoline Act.....	4
Number of dismissals:	
Gasoline Law.....	1
Red Can Gasoline Act.....	1

In our inspection work we have had to contend with financial conditions, which made it impossible for many property owners to make any outlay of consequence on their buildings. We have tried to use reasonable judgment and insist only on corrections which were necessary to avoid probable fire. We have been successful in securing the absolute removal of many dilapidated structures which did not warrant any expenditure for repairs. There are a great many of these buildings which

have gone delinquent on taxes for a number of years, which are encumbered with old mortgages or are in estates, making it difficult to secure action by legal process because of various interests in the title and the unwillingness of anyone concerned to spend any money on them. In numerous cases, however, persons out of employment have been willing to raze the structures for the salvage, with the consent of everyone at interest.

Because the statute on gasoline and volatile oils places regulation directly in the department, except in cities and villages which were regulating by ordinance at the time the statute became effective, we have a great deal of work in connection with gasoline bulk storage and filling stations. A revised gasoline code was adopted, effective July 1, 1934. This code repealed a number of arbitrary provisions in the previous code and made approved safety equipment the principal basis of regulation. This code is regarded by the oil industry as a distinct advance in safety regulation.

Other phases of our work involve fire escapes, regulation of dry cleaning plants and fire safety regulation of schools, theaters and places of public assembly or detention generally.

ROADHOUSE DISASTER.

On March 24, 1935, seven persons lost their lives and 17 were injured in a fire disaster at a roadhouse at Morton Grove. The setting for the tragedy was a one story building. The rear half formerly was used as a dwelling and was of ordinary construction, brick veneer. A frame addition had been constructed at the front for tables and dance floor. The floor level of the addition was at grade, while that of the brick section was about four feet above grade. Steps on either side connected the addition to a former dwelling.

The walls and ceiling of the addition were covered with combustible wall board. Inflammable decorations were draped on walls and ceilings of the entire building. There were only two exits in the building. One was at one side of the addition. The other was at the rear of the former dwelling section. Both doors opened inwards.

The cause of the fire perhaps was a cigaret butt. There is reason to believe that the point of ignition was in a metal container in the hallway where the fire started. This was used for disposal of the contents of ash trays. The inside of the container was burned sufficiently to blister the metal. A towel, used for cleaning the trays, was hung on a steam pipe over the container. It could have caught fire from a blaze in the container and carried it to the combustible decorations.

Whatever the circumstances of origin, fire whipped through the decorations. Limited exit facilities, with doors opening in, made a fire-trap out of the place. In a moment a scene of merriment became a scene of horror. A number of victims were university students.

A survey of roadhouses and night clubs revealed conditions which could duplicate this disaster. Inasmuch as these places were licensed by municipal authorities or county boards, depending on whether location is within or without corporate limits, we urged city, village and

county officials to require fire safety as one of the conditions requisite to issuing of licenses and furnished them with a list of important regulations which should be insisted upon. It is impossible for the Division to maintain a continuous inspection over all of these places and we feel that the licensing authorities have a definite responsibility in seeing that they are reasonably safe.

FIRE CASUALTIES.

Reports to this office showed that no less than 102 persons died and 378 were injured as a result of fire or burns. Contrary to general belief, most of these casualties do not occur because people are trapped in burning buildings, but because they receive burns during their ordinary activities. A prolific source of tragedy is use of kerosene to start or hurry fires in stoves. Use of gasoline or naphtha for cleaning at home is another. These liquids are very volatile, and are also highly inflammable and explosive. The fumes soon permeate the house. If they reach a source of fire, such as a kitchen stove or even the spark of an electric snap switch, there is an instant envelopment of flame which few persons can survive. Certain materials, such as silk, generate static electricity when rubbed together and can thus furnish the spark. Other common sources of fire casualties are children playing with matches or around bonfires, clothing catching on fire from open lights and similar causes. Human nature cannot be regulated successfully by law. A campaign of education must be carried on all the time.

The table of deaths and injuries follows:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	8	44	7	59
Females.....	13	20	10	43
	21	64	17	102

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	14	280	1	295
Females.....	15	65	3	83
	29	345	4	378

ANNUAL FIRE COLLEGE.

The Eleventh Fire College was held at the University of Illinois June 11 to 14, inclusive. The enrollment was 412, which was the largest on record except in 1932, when 416 registered. In that year,

however, there was a large registration of local residents who were not firemen. The 1935 enrollment was therefore the largest representation of firemen ever attending the college. In addition fire prevention officials from State institutions and industry attended. All told, 131 communities were represented.

The college was outstanding in every way. The type of program seemed to attract more than usual. The speakers knew their subjects and presented them in an effective way. Those in attendance showed a noticeable seriousness of purpose, which was evidenced also by the fact that 120 persons attended the closing sessions on the last day.

Four schools were conducted: engineers, inspectors, volunteer departments and instructors. Evolutions and demonstrations were held at the training tower. In the evenings open discussion forums were held. Ball games were played at the close of each afternoon, breaking down the formality and furnishing wholesome diversion.

Special attention was given to the work of the volunteer department, of which there are many in the State, so that the problems of both the volunteer and paid departments are adequately met.

Despite the large attendance, it represents perhaps less than 10 per cent of the firemen of Illinois. A plan is under consideration for the organization of regional schools throughout the State, which would carry the benefits of the college to the firemen. The more elementary work of the College could be given at these schools, enabling the College to develop more advanced features.

The college is sponsored by the Illinois Firemen's Association, with the Division of Fire Prevention, University of Illinois, National Board of Fire Underwriters, Illinois Inspection Bureau and Western Actuarial Bureau cooperating. Professor L. H. Provine of the Department of Architecture of the University is director.

EDUCATIONAL ACTIVITIES.

The high light in the educational activities of the Division is always Fire Prevention Week, which was observed October 7 to 13, 1934. Twenty thousand copies of the Governor's proclamation and 20,000 copies of a poster were distributed to schools by cooperation of county superintendents and were posted about municipalities by fire chiefs. Each year the observance of Fire Prevention Week is more general and effective. Insurance interests, civic clubs and schools cooperate with fire chiefs and local officials in carrying out programs designed to arouse more public interest in cutting down fire waste.

The new quarters secured by the Insurance Department in the exposition building at the State Fair grounds are larger and enable us to arrange a far more attractive exhibit, which we are improving year by year.

Public addresses and news bulletins are employed on all possible occasions.

PLANS FOR FUTURE.

As has been noted previously, the field staff of the Division consists of 13 men, of whom three are in Chicago. The different classes of work which come within the scope of the Fire Marshal, and its volume in a state the size of Illinois are entirely out of proportion to such a small staff. The number of deputies is less than one-half of that employed at the time I took office. A few years ago four times as many were engaged.

The reason for the curtailment is decrease in revenue caused by the depression. This revenue is derived from a tax of one-fourth of one per cent of fire insurance premiums collected in Illinois. The depression did not decrease our responsibilities or the volume of work, but rather increased them. It has been necessary to use our small force both for investigations and inspections, with the result that inspections had to wait if there was investigation work in hand. This arrangement is bad from another angle. Some men are good investigators and some are good inspectors. Few are good at both.

The last Legislature raised the insurance tax to one-half of one per cent, doubling our revenue beginning January 1, 1936. An appropriation of \$150,000 was provided to enable us to expend the increase. We plan to use these funds to create an organization more adequate to discharge our responsibilities, along these lines:

A reasonable increase in personnel.

Assignment of one group of deputies as investigators and the balance as inspectors, so both branches of work may be carried on simultaneously and without interference.

Better training of each group and adequate supervision for each.

Increased contacts with fire chiefs and local officials in the interests of improved local fire control.

Development of educational and publicity phases so as to keep fire prevention before the public at all times.

Use of existing organizations, especially those of boys and girls, for carrying on practical fire prevention education.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1934 TO JUNE 30, 1935.

Total value of buildings in which fires have occurred.....	\$125,175,879
Total damage to said buildings.....	5,700,148
Total insurance on said buildings.....	69,037,068
Total value of personal property jeopardized by fire.....	31,494,491
Total damage to said personal property.....	2,849,555
Total insurance on said personal property.....	15,755,593
Total fire loss in the entire state of Illinois.....	8,549,703
Total number of fires in the entire state of Illinois.....	14,045

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1934 TO JUNE 30, 1935.

Total value of buildings in which fires have occurred.....	\$42,451,834
Total damage to said buildings.....	4,587,879
Total insurance on said buildings.....	26,161,470
Total value of personal property jeopardized by fire.....	15,805,482
Total damage to said personal property.....	2,220,451
Total insurance on said personal property.....	7,867,438
Total fire loss outside the city of Chicago.....	6,808,330
Total number of fires outside the city of Chicago.....	8,442

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1934 TO JUNE 30, 1935.

Total value of buildings in which fires have occurred.....	\$82,724,045
Total damage to said buildings.....	1,112,269
Total insurance on said buildings.....	42,875,598
Total value of personal property jeopardized by fire.....	15,689,009
Total damage to said personal property.....	629,104
Total insurance on said personal property.....	7,888,155
Total fire loss in the city of Chicago.....	1,741,373
Total number of fires in the city of Chicago.....	5,603

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1934 TO JUNE 30, 1935.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1934			1935		
July.....	1,437	\$1,031,629	January.....	1,689	\$1,005,584
August.....	845	743,417	February.....	1,234	771,621
September.....	787	570,197	March.....	1,239	641,987
*Supplement to Sept.....	18	13,024	April.....	1,194	544,305
October.....	1,072	1,049,921	May.....	1,036	525,181
November.....	1,290	519,947	June.....	697	289,940
December.....	1,507	842,950	Total.....	14,045	\$8,549,703

* Reports received too late to be classified under proper month.

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1934 TO JUNE 30, 1935.

Cause.	Number.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	1,007	\$413,229
2. Conflagrations.....	148	28,960
3. Electricity (except electric irons and similar small devices).....	1,383	549,493
4. Explosions.....	295	219,416
5. Exposure.....	444	266,533
6. Fireworks, fire crackers, balloons, etc.....	35	2,521
7. Friction, sparks occasioned by running machinery.....	21	7,052
8. Gas, natural and artificial.....	156	138,077
9. Hot ashes and coals, open fires.....	234	28,350
10. Hot grease, oil, tar, wax, asphalt (ignition of).....	92	20,259
11. Hot irons, including electric devices.....	126	13,812
12. Incendiarism.....	176	284,815
13. Lightning—buildings rodde.....	22	7,712
14. Lightning—buildings not rodde.....	319	300,682
15. Matches, smoking.....	1,958	331,289
16. Miscellaneous—cause known, but not classified (for unknown see No. 27).....	367	155,770
17. Open lights.....	276	96,856
18. Petroleum and its products.....	975	431,946
19. Rubbish and litter.....	618	130,133
20. Sparks—arising from combustion (other than 23).....	125	129,032
21. Sparks—on roofs.....	2,443	483,956
22. Spontaneous combustion.....	426	336,587
23. Steam and hot water pipes.....	25	12,243
24. Stoves, furnaces, boilers and their pipes.....	791	502,642
25. Unknown.....	1,467	3,176,641
26. Unknown origin, but investigation important.....	116	481,097
Total.....	14,045	\$8,549,703

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1934 TO JUNE 30, 1935.

Class of property.	Number.	Damage.
1. Apartment houses, flats and rooming houses.....	2,060	\$ 363,215
2. Amphitheatres, grand stands, etc.....		
3. Bakeries.....	41	23,262
4. Barber shops.....	21	5,856
5. Barns and stables (not liveryes).....	493	665,361
6. Churches.....	55	180,521
7. Depots, stations, waiting rooms, etc.....	11	3,640
8. Dry cleaning establishments.....	36	11,057
9. Dry houses, kilns, rooms, etc.....		
10. Dwellings.....	5,872	2,694,041
11. Elevators and grain warehouses.....	14	378,977
12. Factories.....	224	1,071,555
13. Foundries.....	24	11,202
14. Garages.....	746	236,732
15. Granaries.....	50	45,831
16. Green houses.....	3	1,932
17. Halls, (lodges) (club) (dance) (public) etc.....	39	47,209
18. Hotels and boarding houses.....	266	273,246
19. Hospitals.....	7	2,945
20. Ice houses.....	4	1,175
21. Jails.....	4	695
22. Laundries.....	30	28,595
23. Liveryes.....	2	135
24. Mills (flour).....	2	19,000
25. Mills (saw and planing).....	6	1,478
26. Office buildings.....	112	76,164
27. Oil houses.....	44	28,830
28. Photo studios.....	6	4,815
29. Power houses, pump houses and engine houses.....	7	5,185
30. Restaurants.....	157	295,713
31. Saloons.....	66	18,088
32. Sheds.....	483	95,314
33. Smoke houses.....	39	5,778
34. Silos.....	11	3,235
35. Stores.....	861	865,476
36. Shops (carpenter, blacksmith, etc.).....	40	32,017
37. Schools, (colleges, seminaries, etc.).....	52	162,477
38. Theatres and motion picture houses.....	34	174,911
39. Warehouses.....	57	79,903
40. Miscellaneous.....	527	240,901
FIRES OTHER THAN BUILDINGS		
1. Automobiles.....	1,336	70,467
2. Boats.....	14	25,120
3. Bridges.....		
4. Cars (railway) (electric) etc.....	60	96,245
5. Docks, (coal) etc.....	1	11,400
6. Fences.....	15	79
7. Grain and hay.....	53	9,954
8. Junk yards.....	38	63,787
9. Lumber yards.....	10	84,729
10. Tanks (water) etc.....	3	1,475
11. Tents.....	3	80
12. Threshing outfits.....		
13. Trestles.....	1	800
14. Wagons.....	1	30
15. Bulk oil plants.....	4	29,050
Total.....	14,045	\$8,549,703

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS, JULY 1, 1934 TO JUNE 30, 1935.

Counties.	Number.	Damage.	Counties.	Number.	Damage.
Adams.....	172	\$ 124,572	Livingston.....	89	117,861
Alexander.....	14	7,675	Logan.....	90	34,439
Bond.....	39	22,620	Macon.....	156	74,388
Boone.....	17	18,055	Macoupin.....	80	71,409
Brown.....	15	14,060	Madison.....	305	414,398
Bureau.....	62	52,823	Marion.....	68	29,868
Calhoun.....			Marshall.....	13	30,045
Carroll.....	31	3,894	Mason.....	18	16,918
Cass.....	56	12,139	Massac.....	18	338,647
Champaign.....	197	116,091	McDonough.....	63	22,139
Christian.....	97	131,064	McHenry.....	42	90,080
Clark.....	28	21,916	McLean.....	136	111,116
Clay.....	12	13,628	Menard.....	16	3,247
Clinton.....	30	14,397	Mercer.....	15	17,454
Coles.....	176	64,467	Monroe.....	13	23,506
Cook.....	6,405	2,289,846	Montgomery.....	67	50,413
Crawford.....	34	27,895	Morgan.....	44	15,467
Cumberland.....	7	15,860	Moultrie.....	28	3,241
DeKalb.....	79	38,017	Ogle.....	37	44,308
DeWitt.....	29	15,379	Peoria.....	277	169,493
Douglas.....	42	65,101	Perry.....	40	8,086
DuPage.....	68	139,655	Piatt.....	23	13,611
Edgar.....	66	103,772	Pike.....	35	25,461
Edwards.....	6	896	Pope.....	23	18,920
Effingham.....	24	16,546	Pulaski.....	34	34,280
Fayette.....	33	25,895	Putnam.....	8	7,360
Ford.....	26	23,933	Randolph.....	9	7,895
Franklin.....	97	73,637	Richland.....	27	19,057
Fulton.....	93	56,466	Rock Island.....	225	85,925
Gallatin.....	26	43,769	Saline.....	90	42,817
Greene.....	24	18,742	Sangamon.....	293	276,254
Grundy.....	22	20,918	Schuyler.....	21	20,123
Hamilton.....	33	25,556	Scott.....	19	21,870
Hancock.....	43	42,166	Shelby.....	81	77,109
Hardin.....	9	9,568	Stark.....	21	16,483
Henderson.....	17	14,980	St. Clair.....	393	163,536
Henry.....	91	53,283	Stephenson.....	67	68,126
Iroquois.....	57	94,848	Tazewell.....	106	89,947
Jackson.....	101	46,028	Union.....	1	1,000
Jasper.....	27	20,961	Vermilion.....	257	165,719
Jefferson.....	81	41,551	Wabash.....	32	5,702
Jersey.....	27	12,958	Warren.....	63	21,640
JoDaviess.....	48	85,215	Washington.....	37	134,470
Johnson.....	3	1,091	Wayne.....	38	29,624
Kane.....	378	101,357	White.....	30	10,601
Kankakee.....	114	109,404	Whiteside.....	121	81,592
Kendall.....	28	22,032	Will.....	217	186,278
Knox.....	142	69,189	Williamson.....	185	127,233
Lake.....	193	208,552	Winnebago.....	208	110,693
LaSalle.....	232	351,517	Woodford.....	16	16,740
Lawrence.....	45	51,969			
Lee.....	54	27,170	Total.....	14,045	\$8,549,703

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STATE OF ILLINOIS

HENRY HORNER, Governor



NINETEENTH ANNUAL REPORT

OF

DIVISION OF FIRE PREVENTION

RECEIVED BY THE

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DEPARTMENT OF INSURANCE

July 1, 1935

TO

June 30, 1936

STATE OF ILLINOIS

HENRY HORNER, Governor



NINETEENTH ANNUAL REPORT

OF

DIVISION OF FIRE PREVENTION

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ERNEST PALMER, Director

SHERMAN V. COULTAS, Fire Marshal



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ANNUAL REPORT
DIVISION OF FIRE PREVENTION
OF THE
DEPARTMENT OF INSURANCE
For the Year July 1, 1935 to June 30, 1936.

ERNEST PALMER, *Director.*

SHERMAN V. COULTAS, *Fire Marshal.*

The following is a supplemental report of the Division of Fire Prevention giving a detailed account of the activities of the Division and the loss records for the fiscal year July 1, 1935 to June 30, 1936.

The purpose of the Division of Fire Prevention is to reduce fire losses through a program of fire prevention. The program divides itself into two main parts, first, the investigation of questionable losses and prosecution of the guilty parties when the evidence warrants; and second, the correction of conditions which may cause fires.

ARSON INVESTIGATIONS.

Arson convictions totaled 53, an average of approximately one a week. There were indications of an increase in crimes of burning, after the marked abatement of the preceding two years, but they were sporadic burnings engineered by individuals rather than organized rings. The professional rings have been broken up by convictions of the last few years with the result that large scale arson activities have ceased.

We experienced in this year, however, perhaps the most revolting case of arson in the records of the Department. Ten persons lost their lives by jumping or by fire, and twelve were badly injured, in an incendiary fire in Chicago, which was set in a grocery store located under two stories of apartments. The motive for the fire was the desire of the proprietor of the store to collect the small sum of \$3,000 of insurance which he carried on his stock and household goods in the rear of the store. The "torch", who set the fire, was to have received \$100 for his dastardly services. Fifteen gallons of gasoline were used to saturate the place. Two explosions and a complete envelopment with flames followed, trapping the victims in apartments over the store. The hour was 11:05 p. m.

Chicago and the State were horrified by this mass murder by arson, as it may appropriately be called. Arrests were made promptly and after several days of hard work, confessions were secured. These confessions revealed as principals the store proprietor, his nephew and a "torch". The nephew acted as the "go-between" in engaging the "torch".

When arraigned, all three attempted to plead guilty. The court advised them that he would sentence them to the electric chair on a plea of guilty. A jury was selected. The nephew persisted in his efforts to plead guilty and was sentenced to 199 years on a charge of murder by arson. The other two were found guilty and sentenced to 99 years each.

Another conviction for murder by arson was secured in Washington County, where the defendant was charged with the death of his wife and infant son in a fire which destroyed their home. It was alleged that he threw gasoline over them and ignited it. He did not confess. His wife implied to witnesses that he was responsible, but died before a definite statement could be obtained from her. He was sentenced to 14 years.

Motive in most of the arson cases was desire to collect the insurance money, with a sprinkling of revenge fires and cases of juvenile delinquency and insanity.

Nimble wit of a country doctor caused the quick arrest of the "torch" in a Henry County case. The man had touched off a fire in Kewanee after saturating the place with gasoline. He was blown through a window, his coat and cap on fire and his face burned and bruised. He discarded his coat and cap on the spot and made his way to a nearby town, where the physician was called to attend him. Despite his story that he had been in an automobile wreck, the physician was skeptical and relayed a call to the sheriff's office, meanwhile detaining the man until the officers arrived. He was held as a suspect in the Kewanee fire and confessed when confronted with his discarded coat, which matched his trousers. He named the owner of the property and a Chicago doctor as fellow conspirators. The doctor was the "go-between" who engaged his services. This doctor was taken into custody and on his person was found a judgment note given him by the property owner, which was to guarantee a fee of \$500 for arranging the fire. The "torch" was to receive \$300. All pleaded guilty and received jail terms.

After setting a number of fires "because he had been drinking and felt mischievous," a young man in Macoupin County went home and to bed. He had used a kerosene torch which had been placed by the city at a certain embankment to warn motorists. It left a smudge on his hands. When he took off his shirt, smudge marks were transferred to the button holes of his shirt. A witness had seen him with a torch at premises on which the garage burst into flames as he left. While her identification was not positive, it was sufficient to take him into custody as a suspect. The smudge marked shirt clinched the case and the young man is reflecting on his night of "fun" in the penitentiary.

Because his father was killed a number of years ago in a railroad accident, a Lake County youth set fire to the railroad station. Because his grandfather had not helped him and his brothers after their father's death, so he alleged, he set fire to his grandfather's barn. He too is reflecting in the penitentiary.

Children who set school fires usually do so because they do not like to go to school. A 16 year old girl in Richland County stated that she set fire to a school building, although she liked to go to school. But she

said the other pupils made fun of her clothes and would not be friendly with her. She was adjudged delinquent and paroled.

A youth, called "the perfect type of pyromaniac," was apprehended by means of footprints after setting fire to a clubhouse and several smaller buildings in the Cook County Forest Preserve. He said he set the fires to see the buildings go down and that he has had his mind on setting fires since he was 12 years old. He was placed under juvenile supervision.

Convictions by counties were:

Adams	2	Lake	2	Shelby	2
Alexander	1	Macoupin	2	Union	1
Clay	1	Peoria	10	Washington	1
Cook	25	Pike	1		
Henry	3	Richland	1	Total	53
Jefferson	1				

The tabulated investigation record is as follows:

Investigations open July 1, 1935.....	349
New investigations assigned.....	569
Investigations closed	451
Cases open for further investigation June 30, 1936.....	467
Arrests	79
Indictments returned	46
"No True" bills returned.....	5
Reindictments returned	5
Indictments nolle prossed.....	8
Indictments stricken with leave to reinstate.....	1
Found guilty	53
Found not guilty.....	8
Confessions	23
Cases dismissed	3
Jury disagreed and dismissed.....	1

FIRE PREVENTION ACTIVITIES.

The fire loss of the State can be controlled by effective local fire prevention programs, backed up by the authority of the State when occasion requires. The Division has definitely abandoned the policy of sending inspectors from town to town, doing routine inspection work which properly should be done by the local authorities. Such a policy discourages local effort and produces spotted results, as the State cannot possibly maintain a force large enough to keep the entire State under proper inspection.

Human nature being what it is, and carelessness being the predominating cause of fires, it is necessary to have a system of local inspection, which is both thorough and systematic. An inspection now and then is not enough. It must be continuous. Although organized at first exclusively for the purpose of fighting fires, a paramount duty of fire departments is to prevent fires.

Some of our larger cities are maintaining effective fire prevention programs and are securing the benefits in lower losses. Some of the most effective work of the Division is done in these communities, where we are called in when situations arise which are difficult to handle.

A larger measure of help from the State is needed by the smaller communities, which do not maintain paid fire departments or building departments. Yet we find some of the best fire prevention work done in many of these communities.

Our policy is to cooperate fully with fire departments. We encourage them in steadily building up their fire prevention work, stepping in to assist them whenever necessary. We are inaugurating a system of group inspections, whereby a group of inspectors makes a general inspection of a city, with the fire department assisting. This makes for a substantial clean-up of hazards and gives the fire department a new starting place to carry on the work.

Until this year our field force has consisted of ten men down-State and three in Chicago, hopelessly inadequate to handle the arson and inspection work in a State as large as Illinois. The last Legislature doubled the special insurance tax which supports our work, which will permit us to build up a force more adequate to the needs of the work. One group of deputies will be assigned to inspection work and one to arson investigations. Each deputy will be responsible so far as practicable for a certain district. It will be the duty of the inspectors to cover their districts periodically, keeping in touch with fire chiefs and giving them any necessary help and advice. State orders will be issued when the conditions require, but chiefs will be encouraged to handle matters so far as possible, especially the purely routine work. In this way we believe we can cover the maximum amount of ground and render our services most effective, at the same time increasing the efficiency of the local programs.

The tabulated record of inspection work is as follows:

Number of inspections.....	4,058
Number of orders issued.....	514
Number of rechecks.....	1,162
Number of compliances.....	205
Number of removals of buildings.....	61
Number of arrests:	
Fire Marshal Law, Sec. 9.....	2
Number of fines:	
Fire Marshal Law, Sec. 9.....	1

It never has been the policy of the Division to invoke penalties in order to enforce orders, except when the circumstances left no other course. A few individuals make it necessary to resort to this action, but generally speaking property owners usually comply with recommendations when shown that they are reasonable and necessary. The most successful deputies are those who can so convince property owners.

Large scale safety improvements have been made in many school buildings, both public and parochial, and in hospitals and other institutions which house people, as a result of our recommendations.

The question of finances is always a big obstacle to overcome in securing improvements both in public and private property. We try to be as reasonable as possible in such cases, getting the most important things taken care of first.

Due to a change in the statute regulation of gasoline and volatile oils has been transferred to the Finance Department and is exercised by the Motor Fuel Tax Division, which is now handling gasoline bulk storage and filling station installations and has adopted the code worked out by our Division. The relation between gasoline and fire is so close, however, that we cannot divorce ourselves from fire hazard conditions which involve gasoline. These we handle under the Fire Marshal Law.

TWELFTH ANNUAL FIRE COLLEGE.

Each year the Fire College, conducted at the University of Illinois by the Illinois Firemen's Association, takes on an added significance as a potent agency for developing the local program necessary to cope properly with the fire problem. The college is fortunate in having as director Prof. L. H. Provine, head of the Department of Architecture at the University. This year the attendance was 453, which was the largest on record. There were 130 communities represented and in addition there was attendance from seven states. This year 15 city officials registered as well as 12 representatives from private fire departments of industries. Dates of the course were June 9 to 12.

In order to make the work more effective, the program was divided so as to provide separate classes for paid and volunteer departments, with separate periods at the training tower also for each group. According to those present the program was full of subjects of value and the work was presented effectively by speakers and instructors.

Much thought is being given to the subject of regional fire schools as a supplement to the Fire College. Material is being gathered and a tentative program outlined. These schools will be held in various regions of the State and the plan contemplates definite courses of study to be carried on by firemen between schools.

EDUCATION AND PUBLICITY.

Fire Prevention is making progress, due to the building up of activities each year by agencies and organizations which are interested. The observance of Fire Prevention Week in October of each year has concentrated a great deal of effort into one week throughout the country and has done much good, but interest must be maintained during the entire year by well planned programs of education and publicity. As often as possible, addresses are given by the fire marshal and members of the department to civic organizations and other responsible bodies. Literature is disseminated and news bulletins published. Effective displays are made at the State Fair, at which special efforts will be made this year. Plans are in mind for expanding this class of work to the extent permitted by finances and personnel.

LOSSES BY YEARS.

The following is a table of Illinois fire losses since departmental organization under the Civil Administrative Code estimated and reported to the State Fire Marshal at the time of the fire by fire departments and other local reporting agencies:

Year. (Ending June 30 each year).	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814
1933-1934.....	18,537	19,476,606
1934-1935.....	14,045	8,549,703
1935-1936.....	17,920	12,755,129

(For complete official figures as reported by insurance companies see Annual Report of the Department.)

It will be noted from the foregoing table that there has been a steady decline in estimated fire losses since 1930-1931, interrupted only by an abnormal loss of \$19,476,606 in the year 1933-1934. This was accounted for by the Chicago Stockyards conflagration and the State Arsenal fire, occurring in that year.

While the estimated loss this year is an increase over last year, nevertheless it is lower than any of the others of the five year period and is in line with the general downward trend. Last year's estimated loss must be taken as an abnormally low one and not as a standard for comparison.

EFFECT OF WEATHER ON FIRES.

Last winter was the most severe in years, not only because of the intensity of the cold weather, but because of its long duration and its spread over the entire area of the State. Fires always increase in winter because of the hazards of heating plants. The demands placed on heating plants by the winter just passed contributed materially to winter fires. The heavy snows which accompanied the sub-zero waves made it difficult for firemen to reach fires and they labored under almost impossible conditions in fighting fires during temperatures which caused water to freeze almost on contact with air. More fires occurred during January than in any month in the last ten years except February, 1934 and December, 1935. All of the winter months from November to March, inclusive, showed substantial loss increases, which were particularly marked in January, February and March.

The severe winter was followed in the late spring by a drought which has become one of the most disastrous on record. Fires have caught easily from burning trash or discarded cigarettes and have kept fire departments busy throughout the State. April, May and June each have shown an increase both in the number of fires and in the amount of loss over the preceding year, but we are fortunate that no serious conflagrations have occurred. At the present time some sections of the

State are faced with a water shortage, which will add to the dangers of the situation unless there is an adequate rainfall.

PEORIA DISTILLERY FIRE.

This fire originated in Warehouse No. 3, which contained 80,000 barrels of whiskey, and spread to the adjoining cistern and shipping building and the bottling building.

Warehouse No. 3 was completed in 1935 and represented the latest thought in structures of this type. It was a typical open rack bonded warehouse, with heavy brick walls and concrete basement. There were no floors except narrow catwalks and center aisleways. A system of timber racks was used to support the barrels of whiskey. The basement was designed with a capacity sufficient to hold the entire contents of the barrels in case of accident, so as to prevent the flow of burning liquid. The building was completely equipped with automatic sprinklers, having ample water supply from 10 inch looped mains.

The exact circumstances as to the origin of the fire are not entirely clear. At the coroner's inquest into the death of an employee, there was testimony which indicated that some tilting of the wooden supporting structure had been noted prior to the fire and that men were at work in an effort to keep it in alignment. With scarcely any warning, the entire rack structure collapsed. It carried the brick walls with it and dropped the barrels. Many of these broke and released their contents outside the line of the walls. While early reports indicated an initial explosion, other reports stated that the collapse preceded the fire.

Whiskey released from the barrels caught fire at once and burned with great intensity. Since the sprinkler system collapsed with the building, it was necessary to close valves on the loop main system to prevent loss of water through broken risers and conserve it for hose lines. It was impossible to reach valves near the burning warehouse because of intense heat, so it was necessary to close remote valves. This cut off water supply to sprinklers in the adjoining bottling building and cistern and shipping building. With sprinkler protection cut off, these buildings soon caught fire.

Five pumps, four ladder trucks and three hose trucks were used. Sixteen hose streams were employed, fed both by pumps at a pressure of 145 pounds and directly from hydrants on 10 inch mains. The first alarm was received at 10:25 p. m. Weather conditions were favorable and the fire was considered under control at 2:00 a. m., though hose streams were used for several hours to cool the debris. Ten thousand gallons of whiskey were salvaged. The loss as reported by the Peoria Fire Department was \$75,000 on building and \$2,000,000 on contents, mostly whiskey.

SOY BEAN PLANT FIRES.

Soy bean processing plants contributed two conspicuous losses, featured by explosions and heavy casualties. Eleven men were killed and 45 injured at the Glidden Company plant in Chicago, October 7, 1935 at 11:38 a. m. The loss was estimated at \$600,000, with much

glass shattered in surrounding business and residence properties. Just 15 days later a small rural plant blew up at Momence, killing the owner and his assistant and injuring the plant fireman and a visitor.

The Chicago plant was a large and elaborate one and all precautions supposedly had been taken to guard against fire. It is not necessary to go into the detailed layout of the plant, which consisted of several buildings, and the various processes carried on. Suffice it to say that at several points there was the dust explosion hazard, as where the beans were handled, crushed and flaked preparatory to extracting the oil. The oil was extracted by means of a solvent known as hexane in a closed apparatus. Hexane is a light flammable liquid which flashes at zero or lower. The vapor is explosive in mixtures with air, with explosion limits at 1.1 to 4.2 per cent. The vapor is 2.97 heavier than air. Hence there were two possible sources of explosion, one from dust and one from hexane gas.

The plant had not been in operation for about four weeks because the supply of beans had been exhausted. The plant had been completely overhauled during this period. Piping had been taken down, cleaned and painted, new gaskets fitted and everything placed in what was believed to be first class condition. The new crop of beans had become available and the plant had started operations the morning of the explosion. About three hours after the plant started, some of the employees detected the odor of gas and one of the foremen was on his way to report to the manager when the explosion occurred. The buildings were demolished but no fire occurred.

The only employee who was burned was stationed at the flaking roll in the bean preparation building. He stated that the motor at one of the rolls had opened four or five times that morning. He thought that he may have been burned by a flash of flame from the motor, but felt that the big explosion came from another building.

This indicates that the point of ignition was at this flaking roll. The seat of the main explosion was in the tank building. No doubt a pocket of gas had accumulated in the tank building. Two things may have happened. There may have been a mild dust explosion at the flaking roll, the flash passing through the doorway into the tank building. Or, gas may have been present in the bean preparation building as well as the tank building. In that case the opening of the motor circuit breaker or a flash at the roll could have provided a direct ignition of the gas and air mixture.

This disaster suggests that all the known safeguards against the dust explosion hazard be taken at soybean plants, that consideration be given to the practicability of installing instruments which will detect the presence of flammable vapors and give warning when the concentration approaches the lower explosive limits, and that attention be given to the development of a non-flammable solvent for use in the process.

The explosion at Momence occurred about six hours after the plant had opened. It was a small unit and was to be operated on a rural community basis. It was one of the first of its kind to be installed in this section of Illinois. The disaster attracted wide attention in the Middle West, where there is considerable interest in the practicability of farm and rural community installations for utilizing soy beans.

The owner was Varnum Parish, Jr., who had graduated from a university in June and had devoted his attention since that time to the possibilities of installing a unit for extracting oil from soy beans and producing soy bean meal for cattle. His equipment was made in an iron works in a nearby town and installed under his personal supervision in a building formerly used as a chicken hatchery.

Hexane gas was used as the solvent. It was stored in drums on the floor and pumped into the extraction unit. The steam boiler was in an adjoining room with an open doorway between. The cause of the explosion was the escape of hexane vapors from the extraction unit and their travel to the firebox of the boiler through this open doorway.

The principal lesson of this explosion is that the boiler room and any other sources of open flame should be safely segregated from the extraction unit. The supply of flammable solvent should be stored in underground tanks outside the building. All the safety measures which have been developed for handling flammable liquids should be employed, including adequate ventilation of the building and the use of electrical equipment approved for atmospheres of this kind.

OTHER LARGE LOSSES.

The school loss for the year was \$212,112, of which a \$35,000 loss in Galatia, Saline County, and a \$27,500 loss near Rockford were the largest. Bradley in Kankakee County had a \$115,000 factory loss. The First Congregational Church at Peoria suffered a complete loss of \$110,000, with a \$70,000 damage to an adjoining lodge building. The business district of Clinton suffered a \$72,450 loss.

A particularly hazardous situation developed in many communities during the sub-zero waves, which froze the ground so deeply that the heaving action affected city gas mains and caused widespread leaks. The gas followed along pipe lines into basements, creating both an explosion hazard and a hazard to health. This condition reached even to southern Illinois. During the month of February nineteen fires and explosions were reported from gas with a loss of \$166,025. At Mattoon one was killed and fifteen suffered injuries from a gas explosion.

FIRE CASUALTIES.

Deaths caused by fire were 171, against 102 last year, and injuries were 448, against 378 last year. Most fire casualties result from accidents with fire and do not necessarily involve a burning building. A list of causes is a repetition of those which have gone before: children playing with matches or bonfires, use of kerosene to kindle stove fires, dry cleaning at home with naphtha or gasoline, carelessness in getting too close to fireplaces or open flames, etc. Adults are to blame for their own carelessness, but parents should feel a definite responsibility in seeing that their children form safe habits with reference to fire.

Among the firemen who lost their lives were Chief John Q. Hawk of Moline, killed while blasting to put out an obnoxious fire in a dump, and Fireman Dewey Elliott, of Paris, killed while fighting a fire.

The tabulated record of casualties is:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	16	57	26	99
Females.....	20	32	20	72
	36	89	46	171

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	21	306	5	332
Females.....	15	95	6	116
	36	401	11	448

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1935 TO JUNE 30, 1936.

Total value of buildings in which fires have occurred.....	\$175,604,976
Total damage to said buildings.....	7,223,946
Total insurance on said buildings.....	85,059,503
Total value of personal property jeopardized by fire.....	58,703,840
Total damage to said personal property.....	5,531,183
Total insurance on said personal property.....	32,349,698
Total fire loss in the entire state of Illinois.....	12,755,129
Total number of fires in the entire state of Illinois.....	17,920

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1935 TO JUNE 30, 1936.

Total value of buildings in which fires have occurred.....	\$71,164,983
Total damage to said buildings.....	6,039,082
Total insurance on said buildings.....	39,855,555
Total value of personal property jeopardized by fire.....	28,185,246
Total damage to said personal property.....	4,704,963
Total insurance on said personal property.....	14,703,298
Total fire loss outside the city of Chicago.....	10,744,045
Total number of fires outside the city of Chicago.....	11,424

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1935 TO JUNE 30, 1936.

Total value of buildings in which fires have occurred.....	\$104,439,993
Total damage to said buildings.....	1,184,864
Total insurance on said buildings.....	45,203,948
Total value of personal property jeopardized by fire.....	30,518,594
Total damage to said personal property.....	826,220
Total insurance on said personal property.....	17,646,400
Total fire loss in the city of Chicago.....	2,011,084
Total number of fires in the city of Chicago.....	6,496

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1935 TO JUNE 30, 1936.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1935			1936		
July.....	920	\$2,639,467	January.....	2,317	1,524,076
August.....	829	578,535	February.....	2,201	1,510,617
September.....	949	576,760	March.....	1,992	1,096,271
October.....	1,233	805,941	April.....	1,556	790,054
November.....	1,173	786,706	May.....	1,292	642,759
December.....	1,943	1,025,974	June.....	1,515	777,969
			Total.....	17,920	\$12,755,129

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1935 TO JUNE 30, 1936.

Cause.	Number.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	1,356	\$ 729,641
2. Conflagrations.....	210	18,582
3. Electricity (except electric irons and similar small devices).....	1,601	603,856
4. Explosions.....	497	453,039
5. Exposure.....	818	484,238
6. Fireworks, fire crackers, balloons, etc.....	17	4,555
7. Friction, sparks occasioned by running machinery.....	18	4,447
8. Gas, natural and artificial.....	140	204,848
9. Hot ashes and coals, open fires.....	313	119,373
10. Hot grease, oil, tar, wax, asphalt (ignition of).....	130	62,339
11. Hot irons, including electric devices.....	99	15,862
12. Incendiarism.....	123	262,150
13. Lightning—buildings rodded.....	37	16,052
14. Lightning—buildings not rodded.....	216	304,932
15. Matches, smoking.....	2,291	333,590
16. Miscellaneous—cause known but not classified (for unknown see No 27).....	237	100,444
18. Open lights.....	362	127,517
19. Petroleum and its products.....	1,020	396,995
20. Rubbish and litter.....	856	134,996
22. Sparks—arising from combustion (other than 23).....	313	41,572
23. Sparks—on roofs.....	3,194	792,863
24. Spontaneous combustion.....	470	393,736
25. Steam and hot water pipes.....	299	50,885
26. Stoves, furnaces, boilers and their pipes.....	1,450	806,309
27. Unknown.....	1,788	6,151,908
28. Unknown origin, but investigation important.....	65	140,400
Total.....	17,920	\$12,755,129

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1935 TO JUNE 30, 1936.

Class of property.	Number.	Damage.
1. Apartment houses, flats and rooming houses.....	2,098	\$ 395,851
2. Amphitheatres, grand stands, etc.....	1	7,250
3. Bakeries.....	51	18,760
4. Barber shops.....	35	8,705
5. Barns and stables (not liveryes).....	613	904,353
6. Churches.....	95	305,518
7. Depots, stations, waiting rooms, etc.....	26	11,965
8. Dry cleaning establishments.....	41	15,419
9. Dry houses, kilns, rooms, etc.....		
10. Dwellings.....	7,606	3,745,429
11. Elevators and grain warehouses.....	19	304,773
12. Factories.....	302	1,042,801
13. Foundries.....	26	40,862
14. Garages.....	1,044	308,622
15. Granaries.....	54	51,455
16. Green houses.....	6	6,920
17. Halls, (lodge) (club) (dance) (public), etc.....	53	128,841
18. Hotels and boarding houses.....	324	150,531
19. Hospitals.....	9	3,825
20. Ice houses.....	9	19,425
21. Jails.....	1	5
22. Laundries.....	26	68,831
23. Liveryes.....	1	167
24. Mills (flour).....	8	130,715
25. Mills (saw and planing).....	6	135
26. Office buildings.....	148	94,483
27. Oil houses.....	41	23,169
28. Photo studios.....		
29. Power houses, pump houses and engine houses.....	21	12,489
30. Restaurants.....	255	262,115
31. Saloons.....	9	5,635
32. Sheds.....	696	111,319
33. Smoke houses.....	39	5,311
34. Silos.....	9	3,840
35. Stores.....	1,437	1,261,851
36. Shops, (carpenter, blacksmith, etc).....	46	11,486
37. Schools, (colleges, seminaries, etc.).....	85	212,112
38. Theatres and motion picture houses.....	28	34,040
39. Warehouses.....	97	390,852
40. Miscellaneous.....	625	2,403,063
FIRES OTHER THAN BUILDINGS.		
1. Automobiles.....	1,644	101,973
2. Boats.....	9	4,830
3. Bridges.....	7	4,675
4. Cars, (railway) (electric), etc.....	60	43,270
5. Docks, (coal), etc.....	5	335
6. Fences.....	37	508
7. Grain and hay.....	103	8,985
8. Junk yards.....	32	26,260
9. Lumber yards.....	16	52,646
10. Tanks (water), etc.....	5	665
11. Tents.....	1	500
12. Threshing outfits.....		
13. Trestles.....	1	1,625
14. Wagons.....	8	234
15. Bulk storage plants.....	2	5,700
Total.....	17,920	\$12,755,129

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF
ILLINOIS JULY 1, 1935 TO JUNE 30, 1936.

County.	Number.	Damage.	County.	Number.	Damage.
Adams.....	260	\$ 70,536	Livingston.....	120	79,570
Alexander.....	20	24,077	Logan.....	90	79,284
Bond.....	46	35,000	Macon.....	193	298,996
Boone.....	25	42,197	Macoupin.....	136	65,921
Brown.....	13	19,450	Madison.....	341	225,024
Bureau.....	122	154,855	Marion.....	96	31,443
Calhoun.....	2	85	Marshall.....	24	58,265
Carroll.....	70	76,504	Mason.....	67	54,225
Cass.....	41	22,199	Massac.....	4	10,250
Champaign.....	227	80,913	McDonough.....	106	156,078
Christian.....	130	81,267	McHenry.....	80	151,440
Clark.....	44	27,913	McLean.....	148	174,210
Clay.....	12	7,695	Menard.....	14	11,228
Clinton.....	39	44,106	Mercer.....	23	37,855
Coles.....	238	244,572	Monroe.....	17	9,430
Cook.....	7,468	2,673,085	Montgomery.....	77	58,445
Crawford.....	68	43,516	Morgan.....	51	26,627
Cumberland.....	21	25,551	Moultrie.....	35	41,616
DeKalb.....	131	100,803	Ogle.....	51	51,083
DeWitt.....	87	90,737	Peoria.....	294	2,478,210
Douglas.....	78	71,436	Perry.....	88	18,629
DuPage.....	137	186,209	Piatt.....	49	42,542
Edgar.....	69	116,018	Pike.....	47	52,578
Edwards.....	16	10,828	Pope.....	23	19,885
Effingham.....	53	17,443	Pulaski.....	59	33,973
Fayette.....	43	23,392	Putnam.....	8	7,280
Ford.....	31	22,536	Randolph.....	33	11,470
Franklin.....	126	141,112	Richland.....	31	18,915
Fulton.....	141	93,047	Rock Island.....	318	103,385
Gallatin.....	26	30,585	Saline.....	95	91,650
Greene.....	56	46,283	Sangamon.....	315	266,062
Grundy.....	36	38,555	Schuyler.....	19	29,288
Hamilton.....	39	19,717	Scott.....	17	6,067
Hancock.....	64	70,287	Shelby.....	85	57,390
Hardin.....	14	2,098	Stark.....	31	71,484
Henderson.....	17	4,673	St. Clair.....	482	337,712
Henry.....	165	93,062	Stephenson.....	91	132,130
Iroquois.....	99	61,732	Tazewell.....	93	49,570
Jackson.....	147	127,820	Union.....	6	6,182
Jasper.....	55	23,441	Vermilion.....	343	166,406
Jefferson.....	153	72,790	Wabash.....	49	11,669
Jersey.....	26	68,607	Warren.....	59	44,211
Jo Daviess.....	50	28,463	Washington.....	46	15,937
Johnson.....	9	14,955	Wayne.....	47	51,530
Kane.....	503	207,702	White.....	39	44,131
Kankakee.....	169	279,399	Whiteside.....	125	53,190
Kendall.....	31	35,840	Will.....	284	206,481
Knox.....	247	125,087	Williamson.....	294	111,574
Lake.....	273	212,524	Winnnebago.....	368	200,646
LaSalle.....	305	150,573	Woodford.....	24	17,955
Lawrence.....	73	34,104			
Lee.....	70	80,348			
			Total.....	17,920	\$12,755,129



I 862

1936/37

STATE OF ILLINOIS
HENRY HORNER, Governor



TWENTIETH ANNUAL REPORT
OF
DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

July 1, 1936

TO

June 30, 1937

ERNEST PALMER, Director
SHERMAN V. COULTAS, Fire Marshal

[Printed by authority of the State of Illinois.]

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1936/37

ANNUAL REPORT
DIVISION OF FIRE PREVENTION
OF THE
DEPARTMENT OF INSURANCE
FOR THE YEAR JULY 1, 1936 TO JUNE 30, 1937

ERNEST PALMER, *Director.*

SHERMAN V. COULTAS, *Fire Marshal.*

Through a reorganization effected in February, 1937, the Division is now operating on perhaps the highest basis of efficiency in its history. The plan adopted was the following:

First, investigation and inspection work were segregated into separate departments, with a responsible supervisor in charge of each. The supervising officers are a chief of investigators and a chief of inspectors. Under their direction, one group of deputies devotes its energies exclusively to investigating questionable fires, while the other confines its activities to inspecting buildings.

Second, the State was divided into districts, each comprising several counties. Each such district is a geographical unit to which is assigned one deputy to attend to fire investigations and one deputy to take care of the inspection work. Deputies are resident in their districts. Cook county is a separate district.

In the past most deputies have done both classes of work. Two disadvantages resulted. In the first place, few deputies can do investigation and inspection work equally well. Their talents and aptitudes lie on one side or the other. In the second place, fire investigations take precedence because of the importance of getting on a case as soon as possible. Naturally, this is detrimental to inspection activities. When there are a great number of suspicious fires, fire prevention inspections are of necessity suspended for the time being.

Under the new plan, deputies have been assigned to one line of work or the other according to their abilities. Under the direction of the office supervisors, these abilities have been developed and guided, with the result that, in the few months which have elapsed, there has been a marked increase in the efficiency of field work in both classes of deputies, which holds much promise for the future achievements of the department.

Investigation and inspection activities proceed side by side, without interference one from the other. Inspectors are able to cover their districts systematically and follow up on their orders to secure compliances. Investigators are able to concentrate on fire investigations without losing any time in handling inspections. Deputies of each class are held responsible for the work to which they are assigned in their respective districts. There is a saving in expense under the district plan, since travel of deputies is normally limited to their own districts. In emergencies, however, deputies may be concentrated at given points when added man-power is necessary, as in important arson cases.

The reorganization plan has been under contemplation for some time and was made possible by legislation enacted two years ago which doubled the special insurance tax which supports our work, increasing it from one-fourth to one-half of one per cent of the gross premiums of fire insurance companies. This permitted an increase in personnel necessary to set up the separate investigating and inspection staffs.

As soon as deputies had been assigned under the new arrangement, two schools of instruction were held at the Springfield office, one for investigators and one for inspectors. The schools were held one week apart and sessions lasted two days. Details of the new plan were explained and the balance of the time was devoted to an intensive discussion of the work in both branches of activity, including the laws, methods and procedure, and the handling of special problems. These schools were highly successful, both as to the amount of subject matter handled and the interest and earnestness manifested by the deputies. They will be repeated annually.

FIRE DEPARTMENT INSTRUCTORS.

As a further step in increasing the service rendered by the Division, provision has been made for the addition to our staff of two fire department instructors. They will visit the fire departments of the State and give them instruction in matters pertaining to evolutions and the use and care of equipment. This will include work with hose, ladders, ropes and other apparatus, formations and maneuvers under various conditions encountered at fires, use of gas masks, life saving and kindred matters.

The subject of a practical program of fireman training, adequate to reach all of the departments of the State, has been a pressing one for some time. Special attention has been given to this class of work at the Fire College, held annually at the University of Illinois, but obviously the college can reach only those who attend its sessions. The attendance, while large, represents a small percentage of the total number of firemen of the State. Furthermore, the Fire College has been anxious for several years to offer advanced work in fireman training for the benefit of the large number who are ready for it, but has been unable to do so because so many of the registrants each year are attending for the first time and require the elementary work. Our fire department instructors will carry

elementary instruction to departments throughout the State and in so doing will enable the Fire College to develop a program of advanced instruction, highly necessary and important in order to develop greater fire department efficiency in meeting present day demands in fire fighting and life saving.

The instructors will be selected from fire departments of the State. They probably will be men now serving as chiefs or assistant chiefs who have shown special ability in fireman training and have demonstrated qualities of leadership.

FIRE PREVENTION WORK.

Reorganization of the Division, as outlined in the forepart of this report, provided for twelve inspection districts, with an inspector responsible for the work in each. This permitted resumption of inspection activities throughout the State on a full time and systematic basis.

The first major undertaking was a statewide school survey. This was started three months ago and is being expedited as much as possible so as to permit our recommendations to be carried out on the maximum number of buildings during the summer vacation.

School authorities have shown a cooperative attitude, indicating that they are more than anxious to provide every reasonable safeguard for the pupils under their charge. Little objection has been taken to our recommendations, although in quite a number of cases the question of financing them has proved to be a problem, making it impossible to carry out a full program of compliance at this time. However, all districts appear to be doing the best they can with funds at their command.

The survey will cover several thousand school buildings. Indications are that more fire safety will be provided for more school buildings than during any similar period in the past.

The Division also is cooperating with the Public Works Administration of the federal government in checking plans for new school buildings and additions as to fire safety. Plans for all such P. W. A. projects are referred to our Springfield office and our approval is required on each set of plans before the federal grant is released. Hence any corrections we call for in the interests of fire safety are carried out. We feel that this is one of the most important pieces of public service the Division ever has rendered.

We plan in the near future a survey of all State institutions—penal, correctional, hospital and educational. When this has been completed, recommendations will be taken up with the respective State departments, which will be urged to formulate programs to carry them out. This will be followed by a survey of privately owned institutions, such as homes for the aged, hospitals, orphanages and the like.

In addition to special classes of work which have been enumerated, inspectors maintain contact with the fire chiefs of their dis-

tricts, encourage them in building up their local fire prevention programs and assist them in making inspections.

The tabulated record of inspection work for the year was as follows:

Number of inspections	4,455
Number of orders issued.....	647
Number of rechecks	1,481
Number of compliances	393
Number of removals of buildings.....	79
Number of arrests:	
General Order No. 1 (dry cleaning).....	1
Red Can Gasoline Act	2
Number of fines:	
Red Can Gasoline Act.....	1
Number of dismissals:	
Red Can Gasoline Act.....	1

It is estimated that property valued at more than eleven million dollars was destroyed by fire during the fiscal year. This is nearly 13½ per cent less than the loss reported in the preceding fiscal year. The number of fire reported was 16,492 a decrease of almost 8 per cent.

Fire losses in the State of Illinois since departmental organization under the Civil Administrative Code were as follows:

Year. (Ending June 30 each year).	Number of fires.	Loss.
1917-1918	12,636	\$12,208,060
1918-1919	11,693	13,240,326
1919-1920	14,052	16,552,248
1920-1921	12,327	20,007,135
1921-1922	14,214	19,537,423
1922-1923	15,183	19,449,718
1923-1924	14,074	20,928,518
1924-1925	18,115	26,148,908
1925-1926	18,049	27,112,084
1926-1927	16,744	21,225,806
1927-1928	19,268	21,629,185
1928-1929 (downstate only)	8,986	11,714,189
1929-1930 (downstate only)	9,432	12,316,052
1930-1931	19,283	21,815,989
1931-1932	17,279	15,809,381
1932-1933	16,929	13,269,814
1933-1934	18,537	19,476,606
1934-1935	14,045	8,549,703
1935-1936	17,920	12,755,129
1936-1937	16,492	11,042,084

The largest losses classified according to causes were:

Electricity.....	1,727	\$1,154,180
Spontaneous combustion	505	643,751
Stoves, furnaces, boilers and their pipes.....	1,166	624,659
Sparks on roofs	2,511	620,016
Exposure	780	577,206
Lightning (not rodged)	366	568,438
Petroleum and its products	841	522,763
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,074	483,100

Most fires were attributed to the following causes:

Sparks on roofs.....	2,511
Matches—smoking	2,401
Electricity	1,727
Stoves, furnaces, boilers and their pipes	1,166
Chimneys, flues, cupolas and stacks, overheated or defective.....	1,074
Rubbish and litter	942
Petroleum and its products.....	841

Of the total number of buildings damaged or destroyed by fire more than 38 per cent were dwellings. Dwellings and other buildings with the greatest number of fires were:

Dwellings	6,317
Apartment houses, flats and rooming houses	2,052
Automobiles	1,585
Stores	1,346
Garages	879
Sheds	708
Barns and stables (not liveryes)	682

Some of the largest losses according to occupancy were:

Dwellings	\$2,954,749
Factories	1,544,745
Stores	1,365,749
Barns and stables (not liveryes)	1,324,075
Garages	342,573
Churches	339,973
Schools	334,636
Apartment houses, flats and rooming houses	331,988

LOSS OF LIFE.

During the year 164 deaths from fire or burns, and 462 injuries were reported.

The tabulated record of casualties is:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males	10	72	16	98
Females	17	31	18	66
	27	103	34	164

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males	16	333	6	355
Females	13	93	1	107
	29	426	7	462

FIRE INVESTIGATIONS.

Fire investigations, due to special training of investigators on how to make thorough investigations, including training regarding evidence of incendiarism to be on the lookout for in fires of a suspicious nature, were generally more complete and accomplished better results:

The greater effectiveness in fire investigation work was evidenced by the fact that although fewer investigations were assigned than in the preceding year and a lesser number closed, yet there was a large increase in the number of confessions secured. The fair conclusion being that the more thorough investigations provided the investigators with a greater amount of damaging evidence with which to face the suspects, causing confessions to follow.

Springfield furnished the outstanding investigation of the year. At an early morning hour a terrific explosion rocked an entire section of the city. Residents were shaken from sound slumber and thrown into a state of panic and terror, as window glass crashed and fire lighted up the area vividly.

The immediate objects of destruction were two adjoining dwelling houses owned by William Rath and occupied by him and Angelo Yannone. For it was in them that the blast had its source. They were completely shattered and leveled to the ground in flaming ruins. The residence of a neighbor on one side was damaged beyond repair by the explosion and fire. The residence of a neighbor on the other side was badly damaged by the explosion. Window glass was broken within an area of several blocks. It was fortunate that no deaths or serious injuries occurred.

According to eye witnesses, liquid fire was hurled into the air by the explosion and burned in trees, along the ground, and bricks which were thrown several feet from the building were burning. This indicated that a large quantity of flammable liquid had been used as the medium of destruction.

Explosion-fires of this type were not new in Springfield. Twenty such—all occurring in insured buildings—had preceded this one in the period since 1931. But never had there been one of such violence, bringing widespread damage to homes and menace of death to an entire neighborhood. Explosion fires took on a new meaning to residents of Springfield.

The whole resources of the department were thrown into this investigation, which revealed the operation of an arson gang responsible also for previous explosion fires in Springfield. Other branches of the State government that assisted materially in the investigation were the Bureau of Criminal Identification and Investigation and the Chief of Highway Police and his men. Added to this we had the whole-hearted support of the newly elected State's Attorney of Sangamon County, William P. Roberts, and his entire office force. On April 8, 1937, seven indictments were returned by the grand jury of Sangamon County, for arson, burning to defraud and conspiracy in connection with the explosion fire. On June 8, 1937, an additional indictment was returned, and, on June 30, 1937, another person was placed under arrest and bond, in connection with this same case.

Convictions by counties were:

Alexander	1	Jackson	3	Peoria	2
Bureau	1	Jo Daviess	1	Pike	1
Christian	3	LaSalle	1	Tazewell	2
Clay	1	Lee	1	Union	1
Cook	20	Macoupin	1	Warren	1
Fulton	1	Montgomery	1	Williamson	2
Total					44

The tabulated investigation record is as follows:

Investigations open July 1, 1936	467
New investigations assigned	550
Investigations closed	396
Cases open for further investigation June 30, 1937	621
Arrests	64
Indictments returned	35
"No True" bills returned	2
Indictments nolle prossed	5
Found guilty	44
Found not guilty	5
Confessions	37
Cases dismissed	5
Jury disagreed and dismissed	1
Cases dismissed at preliminary hearing	1
Returned to penitentiary for violation of parole	1

FIRE COLLEGE.

The Thirteenth Annual Fire College which was held on June 15, 16, 17, 18 of this year was outstanding in every respect. There was more enthusiasm and earnestness of purpose during the 1937 College than in any of the previous years. The enrollment of 453 equalled that of last year which was the largest on record. The enrollment this year would, no doubt, have surpassed that number had bad weather not interfered with attendance the last two days. At the end of the second day, the enrollment was 366 as compared with 333 a year ago. The daily record showed more men attending classes regularly. While the College was originally planned for firemen, it has branched out until it takes in industrial fire prevention engineers and all other persons interested in any phase of fire prevention in any walk of life. It instructs in life saving and extinguishment of fires. It teaches fire prevention, regulation and inspection, covering both ordinary and special hazards.

Professor L. H. Provine, head of the Department of Architecture at the University, has been director of this College from the beginning. He is a long range planner and the results now being achieved are a great tribute to his sound and constructive vision. The College is indeed fortunate in having Professor Provine as its director.

A program of keeping the public fire conscious was carried on by the dissemination of literature, the publishing of news bulletins, and addresses on fire prevention delivered in different parts of the State, before various groups, by the State Fire Marshal and his staff.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1936, TO JUNE 30, 1937.

Total value of buildings in which fires have occurred.....	\$386,278,934
Total damage to said buildings.....	6,725,770
Total insurance on said buildings.....	71,372,123
Total value of personal property jeopardized by fire.....	139,963,499
Total damage to said personal property.....	4,316,314
Total insurance on said personal property.....	20,160,763
Total fire loss in the entire State of Illinois.....	11,042,084
Total number of fires in the entire State of Illinois.....	16,492

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1936, TO JUNE 30, 1937.

Total value of buildings in which fires have occurred.....	\$ 54,534,469
Total damage to said buildings	5,693,218
Total insurance on said buildings.....	32,766,527
Total value of personal property jeopardized by fire.....	25,219,209
Total damage to said personal property.....	3,513,029
Total insurance on said personal property.....	13,576,833
Total fire loss outside the city of Chicago.....	9,206,247
Total number of fires outside the city of Chicago.....	10,319

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1936, TO JUNE 30, 1937.

Total value of buildings in which fires have occurred.....	\$331,744,465
Total damage to said buildings	1,032,552
Total insurance on said buildings.....	38,605,596
Total value of personal property jeopardized by fire.....	114,744,290
Total damage to said personal property.....	803,285
Total insurance on said personal property.....	6,583,930
Total fire loss in the city of Chicago.....	1,835,837
Total number of fires in the city of Chicago.....	6,173

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1936, TO JUNE 30, 1937.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1936			1937		
July.....	1,777	\$1,166,714	January.....	1,424	1,175,283
August.....	1,408	1,164,722	February.....	1,465	1,118,572
September.....	815	803,966	March.....	1,776	1,024,432
October.....	1,044	381,760	April.....	1,207	766,037
November.....	1,721	778,099	May.....	1,059	516,101
December.....	1,935	1,398,266	June.....	861	748,132
			Total.....	16,492	\$11,042,084

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1936, TO JUNE 30, 1937.

Cause.	No.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective	1,074	\$483,100
2. Conflagrations	248	200,652
3. Electricity (except electric irons and similar small devices)	1,727	1,154,180
4. Explosions	460	263,657
5. Exposure	780	577,206
6. Fireworks, fire crackers, balloons, etc.	66	12,021
7. Friction, sparks occasioned by running machinery	13	29,397
8. Gas, natural and artificial	168	28,377
9. Hot ashes and coals, open fires	291	71,764
10. Hot grease, oil, tar, wax, asphalt (ignition of)	141	46,113
11. Hot irons, including electric devices	124	22,002
12. Incendiarism	73	159,925
13. Lightning—buildings rodde.....	42	52,920
14. Lightning—buildings not rodde.....	366	568,438
15. Matches, smoking	2,401	344,350
16. Miscellaneous—cause known, but not classified (unknown see No. 27)	241	129,949
18. Open lights	254	106,726
19. Petroleum and its products	841	522,763
20. Rubbish and litter	942	137,839
22. Sparks—arising from combustion (other than 23)	326	57,462
23. Sparks—on roofs	2,511	620,016
24. Spontaneous combustion	505	643,751
25. Steam and hot water pipes	41	12,428
26. Stoves, furnaces, boilers and their pipes	1,166	624,659
27. Unknown	1,617	3,819,705
28. Unknown origin, but investigation important	74	352,684
Total	16,492	\$11,042,084

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED
ACCORDING TO THE PROPERTY DESTROYED, JULY 1, 1936, TO JUNE 30, 1937.

Class of property.	No.	Damage.
1. Apartment houses, flats and rooming houses.....	2,052	\$331,988
2. Amphitheatres, grand stands, etc.....	3	20,120
3. Bakeries.....	46	231,440
4. Barber shops.....	27	7,474
5. Barns and stables (not liveryes).....	682	1,324,075
6. Churches.....	73	339,973
7. Depots, stations, waiting rooms, etc.....	20	19,137
8. Dry cleaning establishments.....	36	29,368
9. Dry houses, kilns, rooms, etc.....		
10. Dwellings.....	6,317	2,954,749
11. Elevators and grain warehouses.....	16	88,430
12. Factories.....	404	1,544,745
13. Foundries.....	28	68,620
14. Garages.....	879	342,573
15. Granaries.....	74	99,400
16. Green houses.....	13	3,323
17. Halls, (lodge) (club) (dance) (public) etc.....	50	53,055
18. Hotels and boarding houses.....	333	155,876
19. Hospitals.....	11	800
20. Ice houses.....	2	1,980
21. Jails.....	2	570
22. Laundries.....	19	1,160
23. Liveryes.....		
24. Mills (flour).....	7	39,735
25. Mills (saw and planing).....	8	10,530
26. Office buildings.....	153	138,546
27. Oil houses.....	45	20,397
28. Photo studios.....	1	10
29. Power houses, pump houses and engine houses.....	19	37,610
30. Restaurants.....	237	200,582
31. Saloons.....	3	868
32. Sheds.....	708	130,973
33. Smoke houses.....	32	5,255
34. Silos.....	13	4,175
35. Stores.....	1,346	1,365,749
36. Shops, (carpenter, blacksmith, etc.).....	27	24,761
37. Schools, (colleges, seminaries, etc.).....	85	334,636
38. Theatres and motion picture houses.....	29	119,323
39. Warehouses.....	78	199,597
40. Miscellaneous.....	600	242,877
FIRES OTHER THAN BUILDINGS.		
1. Automobiles.....	1,585	100,995
2. Boats.....	8	2,278
3. Bridges.....	6	12,665
4. Cars, (railway) (electric) etc.....	92	308,875
5. Docks, (coal) etc.....	16	2,823
6. Fences.....	50	1,225
7. Grain and hay.....	179	17,874
8. Junk yards.....	33	38,386
9. Lumber yards.....	16	27,493
10. Tanks (water), etc.....	1	10
11. Tents.....	4	1,010
12. Threshing outfits.....	3	950
13. Trestles.....	2	5,050
14. Wagons.....	10	505
Bulk storage plants.....	4	27,465
Total.....	16,492	\$11,042,084

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS
JULY 1, 1936, TO JUNE 30, 1937.

County.	No.	Damage.	County.	No.	Damage.
Adams.....	244	\$102,051	Livingston.....	114	\$ 56,487
Alexander.....	9	15,620	Logan.....	102	84,201
Bond.....	27	35,022	Macon.....	178	107,087
Boone.....	24	18,280	Macoupin.....	102	65,334
Brown.....	16	21,460	Madison.....	306	245,008
Bureau.....	109	82,138	Marion.....	96	26,577
Calhoun.....	3	12,554	Marshall.....	29	53,247
Carroll.....	50	66,074	Mason.....	32	15,225
Cass.....	32	29,440	Massac.....	11	6,335
Champaign.....	206	142,903	McDonough.....	80	103,253
Christian.....	118	59,504	McHenry.....	83	129,362
Clark.....	41	30,876	McLean.....	184	193,917
Clay.....	14	35,035	Menard.....	31	26,690
Clinton.....	25	8,670	Mercer.....	25	22,242
Coles.....	208	74,412	Monroe.....	19	12,865
Cook.....	7,071	2,746,770	Montgomery.....	86	50,855
Crawford.....	54	20,237	Morgan.....	35	12,158
Cumberland.....	33	48,740	Moultrie.....	58	61,134
DeKalb.....	119	96,810	Ogle.....	46	51,801
DeWitt.....	82	31,245	Peoria.....	427	284,088
Douglas.....	74	39,870	Perry.....	61	20,664
DuPage.....	121	115,289	Piatt.....	31	18,438
Edgar.....	53	61,523	Pike.....	47	38,209
Edwards.....	13	3,293	Pope.....	25	24,775
Effingham.....	40	38,747	Pulaski.....	20	11,449
Fayette.....	51	48,198	Putnam.....	6	7,231
Ford.....	43	64,490	Randolph.....	48	24,828
Franklin.....	104	126,443	Richland.....	18	18,385
Fulton.....	139	365,595	Rock Island.....	329	115,192
Gallatin.....	13	52,170	Saline.....	64	61,049
Greene.....	37	48,778	Sangamon.....	317	518,157
Grundy.....	35	101,272	Schuyler.....	22	41,490
Hamilton.....	20	11,158	Scott.....	18	12,573
Hancock.....	49	43,663	Shelby.....	69	49,127
Hardin.....	5	1,005	Stark.....	27	52,495
Henderson.....	18	26,130	St. Clair.....	381	154,543
Henry.....	172	98,859	Stephenson.....	90	159,884
Iroquois.....	98	88,628	Tazewell.....	72	53,033
Jackson.....	110	117,373	Union.....	5	65,101
Jasper.....	28	21,425	Vermilion.....	305	270,293
Jefferson.....	93	272,470	Wabash.....	45	17,379
Jersey.....	25	18,849	Warren.....	56	44,890
JoDavies.....	52	49,870	Washington.....	40	41,495
Johnson.....	40	60,410	Wayne.....	38	19,425
Kane.....	392	249,485	White.....	49	36,541
Kankakee.....	158	68,502	Whiteside.....	132	81,676
Kendall.....	46	46,757	Will.....	204	352,626
Knox.....	223	92,606	Williamson.....	191	58,811
Lake.....	248	365,702	Winnebago.....	278	86,605
LaSalle.....	284	360,257	Woodford.....	52	118,585
Lawrence.....	78	35,064			
Lee.....	61	87,547	Total.....	16,492	\$11,042,084

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STATE OF ILLINOIS
HENRY HORNER, Governor



TWENTY-FIRST ANNUAL REPORT
OF
DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

July 1, 1937
TO
June 30, 1938

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ERNEST PALMER, Director
SHERMAN V. COULTAS, Fire Marshal

[Printed by authority of the State of Illinois.]

STATE OF ILLINOIS
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ANNUAL REPORT

DIVISION OF FIRE PREVENTION
OF THE
DEPARTMENT OF INSURANCE
FOR THE YEAR JULY 1, 1937 TO JUNE 30, 1938

ERNEST PALMER, *Director.*

SHERMAN V. COULTAS, *Fire Marshal.*

One year ago the division inaugurated a new line of work, fire department instruction. The results have more than justified the wisdom of the move. Nothing undertaken in the history of the division has produced more enthusiasm from the firemen or more spontaneous avowals of the benefits received.

The purposes of the plan are:

To bring training in the fundamentals of firemanship to firemen throughout the state, especially the volunteer departments. Hitherto few firemen could secure this training except the limited number who were able to attend the State Fire College.

To standardize evolutions so that departments called in to fight a conflagration will use the same methods and will be able to function as one department.

To standardize equipment for reasons similar to those for standardizing evolutions.

To enable the State Fire College to develop advanced courses of instruction, since all of the firemen of the state may now receive instruction in the fundamentals from our instructors.

Our work covers a wide range of subjects, including the following: salvage; first aid, resuscitation and rescue; gas masks, ladders, hose, rope knots and hitches, and miscellaneous subjects covering generally the field of fire prevention, control and extinguishment.

The work has been handled by two deputies assigned to it exclusively. Both are former fire chiefs of much experience. In this year 1,888 firemen have participated in drills. One hundred and forty-four communities in 63 counties have been visited. In several regional meetings of firemen's associations our men have directed evolutions. They took over a large part of the work of the drill tower at the last State Fire College.

The work of the first year was largely experimental. There was little attempt at specialized instruction on separate subjects. The needs

of a fire department were appraised and information was given on subjects most needed or desired. It was a general coverage of the entire field rather than development of the individual phases. We now are ready to organize and systematize the program according to a definite course of study. One subject will be explored and developed at a time. Credit for the completion of each study will be given to firemen and their departments, with final credit for the completion of the full course. These credits will be represented by appropriate certificates. This will accomplish proper grading of the men and their companies. It will stimulate their interest and enthusiasm. They can step up to the Fire College qualified for advanced work, as they must do if they are to keep abreast of the new hazards of an advancing age and the methods of coping with them.

ILLINOIS FIRE COLLEGE.

The Illinois Fire College was held at the University of Illinois June 14 to 17. For the first time since organization in 1925, the attendance exceeded 500. The enrollment was 519. Those attending divided their time between classroom and drill tower. Both advanced and general courses were offered, the latter being a general coverage of fundamentals for the especial benefit of the newer enrollees. Classroom talks were broadcast and this permitted hundreds of firemen to listen in who could not be present.

The college truly is an outstanding institution. The program is formulated to present proper information on new fire hazards and the latest developments in fire prevention, extinguishment and control. Our division has made several important contributions. One of these, covering the field of flameproofing fabrics, has been presented to fire colleges throughout the country and to the conference of Fire Department Instructors of the United States.

One year ago the policy of having deputies perform both inspection and investigation work was abandoned. The field force was divided into two groups, one of which was assigned to inspection duties and the other to investigations. A supervisor was placed in charge of each group and each deputy was made responsible for a definite geographical area for his class of work. This plan has increased the efficiency of our field force and has made for more systematic work.

FIRE PREVENTION WORK.

During the past fiscal year ended June 30, 1938 fire prevention work has progressed in each of the twelve districts on a full time and systematic basis. The geographical divisions cover the entire state with the exception of Chicago, each deputy being assigned from two to fourteen counties, depending on the size and population.

The first major undertaking of the reorganized division was the state-wide school survey made by the deputy fire marshal inspectors.

In comparing the work done during the past fiscal year with that done for the last previous year it was found that 76 per cent more

inspections were made, that 157 per cent more orders were issued, that 148 per cent more rechecks were made, that 105 per cent more orders were complied with, and that 126 per cent more buildings were removed to comply with orders. Each of the orders written may contain anywhere from one to a dozen or more separate and distinct requirements, all of which must be complied with before any credit is given on the record for compliance.

A great deal of constructive work has been done, especially on school buildings, during the past fiscal year, but among the several thousand schools are still many which require attention. The department has endeavored first of all to provide proper means of exit from all buildings inspected, and next to correct deficiencies, particularly those in the boiler room and fuel storage rooms, in storage closets and in the stage portions of auditoriums. Due to the lack of a state building code and due to the fact that so relatively few schools are located in municipalities having codes which govern their construction, a great many hazardous schools were built and these will for many years hence continue to present a problem of fire prevention to this department.

It is gratifying to learn from examining the records of this and the previous three reports that the number of fires occurring in the last fiscal year was considerably below the average of the past three years, and that the total fire loss for schools (colleges, seminaries, etc.) was but 41 per cent of the three year average. The comparison just made would tend to indicate that the past year's efforts toward fire prevention in our schools has been successful in reducing the losses by more than \$140,000, as compared with the previous three year average.

Not all of the inspection work done has been devoted strictly to schools, since during the past fiscal year we have also inspected and made recommendations for the correction of hazardous defects at all major state institutions, including the normal schools. It is hoped by this department that all of the recommendations will be placed in effect without delay.

We have worked in conjunction with the Division of Child Welfare of the Department of Public Welfare and have made inspections and written orders on practically all children's homes and orphanages throughout the state.

During the past fiscal year more than one hundred fifty sets of plans and specifications have been examined and recommendations made for the provision of adequate exits and safety from fire. Most of these plans were for new schools; others were for theatres, gymnasiums, city halls, etc., to be built with P. W. A. help. This division has been happy to work with the Public Works Administration, who have made approval of plans by this department a prerequisite to federal aid. It is felt that the proper time during which to consider exit facilities and the safety of a building is during the planning, and it is felt that due to the cooperation of this division and the Public Works Administration all of the structures recently built with their help are reasonably safe.

By comparing the figures of this year's report with the previous three years with respect to theatres and motion picture houses it is noted

that the number of fires and the total loss has been gradually increasing. The total loss during the past year has been 260 per cent higher than the previous three year average. A great number of new theatres have to our knowledge been built in the past year and with the advent of sound the interiors of many theatres have been treated to improve the acoustics by means of combustible hangings and combustible wall and ceiling finishes. In addition to the hazards created by such treatment, a great number of houses have inaugurated the double feature, which means that approximately twice as much highly inflammable film has been used in the projection booths. Most theatre fires have started in the projection booths and due to the extreme difficulty of extinguishing the nitro-cellulose film fires and due to the inadequacies of the booths, such fires have frequently caused total losses and have proved to be extremely hazardous to the occupants of the buildings. To further their interests many houses have resorted to the award of prizes for attendance, which has in most instances overcrowded the theatres and filled all lobbies and means of exits. It is felt that the theatres and motion picture houses should receive considerable attention during the next few years and that more stringent rules and requirements must be written and enforced to prevent some future catastrophe in this class of buildings.

Another class of buildings which we feel require careful attention is the hospitals. The number of fires and the fire loss in hospitals is extremely low, due perhaps to the almost constant supervision that these buildings receive from the attendants. We are aware, however, that many hazardous hospitals are located throughout the state and intend to keep them constantly in mind and to work for better conditions and better means of exit in those buildings which are notably firetraps.

It is estimated that more than ten and one-half million dollars worth of property was destroyed by fire during the fiscal year. This is only about \$200,000 less than the average for the preceding three years. The number of fires was 16,086. This figure is only 66 fires below the average for the past three years. It is felt that one of the most effective means of reducing this total would be the adoption of a state building code. Lacking such a code this loss of property and the attendant loss of life can only be reduced by the continued work of the inspection division and the cooperation of all municipal and private bodies of the state.

The tabulated record of inspection work for the year was as follows:

Number of inspections	7,852
Number of orders issued	1,660
Number of rechecks	3,672
Number of compliances	807
Number of removals	179
Number of arrests:	
Violation local ordinance.....	2
Fire marshal law, Sec. 9.....	2
Number of fines:	
Violation local ordinance.....	2
Fire marshal law, Sec. 9.....	1

The fire losses in the State of Illinois since the department was organized under the Civil Administrative Code were as follows:*

Year (Ending June 30 each year).	Number of fires.	Loss.
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,449,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,714,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,283	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814
1933-1934.....	18,537	19,476,606
1934-1935.....	14,045	8,549,703
1935-1936.....	17,920	12,755,129
1936-1937.....	16,492	11,042,084
1937-1938.....	16,086	10,586,321

* Figures are compiled from estimates filed with the State Fire Marshal by fire chiefs, mayors (in municipalities having no fire departments) and town clerks (in unincorporated territory).

The largest losses classified according to causes were:

Stoves, furnaces, boilers and their pipes.....	\$781,238
Electricity.....	745,957
Sparks on roofs.....	677,447
Exposure.....	464,037
Chimneys, flues, cupolas and stacks, overheated or defective.....	431,508
Hot grease, oil, tar, wax, asphalt (ignition of).....	429,759
Spontaneous ignition.....	380,393
Matches, smoking.....	348,400
Petroleum and its products.....	321,159

A majority of fires were attributed to the following causes:

Matches and smoking.....	2,392
Sparks on roofs.....	2,098
Electricity.....	1,880
Rubbish and litter.....	1,242
Stoves, furnaces, boilers and their pipes.....	1,178
Chimneys, flues, cupolas and stacks, overheated and defective.....	941
Petroleum and its products.....	898

Of the total number of buildings damaged or destroyed by fire more than 37 per cent were dwellings. Dwellings and other properties with the greatest number of fires were:

Dwellings.....	5,955
Apartment houses, flats and rooming houses.....	1,962
Automobiles.....	1,717
Stores.....	1,250
Garages.....	1,136
Sheds.....	887
Barns and stables (not liveryes).....	540

The largest losses according to occupancy were:

Dwellings.....	\$2,632,421
Factories.....	1,586,023
Stores.....	1,255,273
Barns and stables (not liveryes).....	734,501
Garages.....	484,578
Petroleum refineries.....	400,000
Apartment houses, flats and rooming houses.....	384,717
Restaurants.....	294,335
Theatres and motion picture houses.....	284,663

LOSS OF LIFE.

During the fiscal year 174 deaths from fire or burns and 478 injuries were reported. The tabulated record of casualties is:

DEATHS.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	19	60	21	100
Females.....	14	42	18	74
Total.....	33	102	39	174

INJURIES.

	Babes and children.	Youths and middle aged.	Aged.	Total.
Males.....	24	342	3	369
Females.....	22	79	8	109
Total.....	46	421	11	478

GASOLINE AND OIL REGULATION.

The Sixtieth General Assembly returned the regulation of gasoline and volatile oils to the Department of Insurance. This has placed on the division a great volume of work, both in passing on new installations and inspecting old plants.

Considerable progress has been made in the past year in equipping old aboveground storage tanks with emergency relief vents and internal check valves. The former provide relief for excess pressure in case of fire, preventing rupture of the tanks. The latter close the pipe-line openings on the inside of the tanks when fire occurs, preventing the flow of liquid through ruptured pipe lines to feed the fire. The fire record of bulk storage plants has demonstrated the necessity of this equipment. Where installed, plants have gone through a fire without tank rupture and the loss in tank contents has been limited to the gas which burned at the emergency relief vents.

The rapid development of the new oil producing fields in southern Illinois has created new hazards and a new problem of regulation. The use of liquefied petroleum gas is increasing. Methods of handling this product safely are well understood. The principal hazards are due to its handling by irresponsible or uninformed persons.

INVESTIGATIONS.

The planned work of specially training deputies for fire investigation work, initiated the preceding year, was carried on at called meetings of investigators held periodically. Round-table discussions developed the difficulties which deputies had encountered and all benefited by the interchange of these experiences. These discussions were amplified by instructive talks. The result is reflected in an ever-increasing effectiveness in the work of investigators.

There were no outstanding cases during the year and no evidence of a recurrence of burnings by organized bands of arsonists. Local authorities and state's attorneys have cooperated well and should be given due credit. Forty-five persons were found guilty of incendiary fires, which is one more than in the preceding year.

The tabulated summary of investigation activities follows:

Investigations open July 1, 1937.....	621
New investigations assigned.....	632
Investigations closed.....	481
Cases open for further investigation June 30, 1938.....	772
Arrests.....	112
Indictments returned.....	41
"No true" bills returned.....	2
Reindictments returned.....	7
Indictments nolle prossed.....	9
Found guilty.....	45
Found not guilty.....	4
Confessions.....	55
Cases dismissed.....	22
Juvenile cases, no court action.....	6
Juvenile cases, placed on probation.....	3
Turning in false alarm—guilty.....	4
Committed to state hospital.....	3
Disposed of in juvenile court.....	10
No action taken by grand jury.....	1

The record of convictions by counties follows:

Alexander.....	2	La Salle.....	1	Massac.....	1
Champaign.....	1	Lee.....	3	McLean.....	3
Christian.....	1	Livingston.....	1	Pike.....	1
Cook.....	17	Macoupin.....	2	Stephenson.....	2
Fulton.....	2	Madison.....	1	Vermilion.....	1
Lake.....	6				

Total..... 45

EDUCATIONAL WORK.

Addresses before civic and other groups have been made in increasing number by the Fire Marshal and members of his staff, supplemented by radio talks and press releases. Concentrated efforts were made during Fire Prevention Week, which is the week during which occurs the anniversary of the Chicago fire, October 9. We believe a great deal of effective fire prevention work can be done by public education and it is planned to expand this work as new possibilities for such expansion have been opened up by radio.

THE STATISTICAL RECORD.

PROPERTY LOSS.

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE STATE OF ILLINOIS FROM JULY 1, 1937 TO JUNE 30, 1938.

Total value of buildings in which fires have occurred.....	\$148,283,352
Total damage to said buildings.....	6,513,281
Total insurance on said buildings.....	70,592,080
Total value of personal property jeopardized by fire.....	46,602,816
Total damage to said personal property.....	4,073,040
Total insurance on said personal property.....	27,604,673
Total fire loss in the entire State of Illinois.....	10,586,321
Total number of fires in the entire State of Illinois.....	16,086

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE OUTSIDE THE CITY OF CHICAGO FROM JULY 1, 1937 TO JUNE 30, 1938.

Total value of buildings in which fires have occurred.....	\$ 67,176,013
Total damage to said buildings.....	5,659,836
Total insurance on said buildings.....	44,141,640
Total value of personal property jeopardized by fire.....	29,385,918
Total damage to said personal property.....	3,603,436
Total insurance on said personal property.....	18,651,463
Total fire loss outside the city of Chicago.....	9,263,272
Total number of fires outside the city of Chicago.....	9,821

AGGREGATE VALUE OF BUILDINGS AND PERSONAL PROPERTY SHOWING INSURANCE THEREON AND TOTAL DAMAGE BY FIRE IN THE CITY OF CHICAGO FROM JULY 1, 1937 TO JUNE 30, 1938.

Total value of buildings in which fires have occurred.....	\$ 81,107,339
Total damage to said buildings.....	853,445
Total insurance on said buildings.....	26,450,440
Total value of personal property jeopardized by fire.....	17,216,898
Total damage to said personal property.....	469,604
Total insurance on said personal property.....	8,953,210
Total fire loss in the city of Chicago.....	1,323,049
Total number of fires in the city of Chicago.....	6,265

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1937 TO JUNE 30, 1938.

Month.	No. fires.	Fire loss.	Month.	No. fires.	Fire loss.
1937			1938		
July.....	1,227	\$ 631,860	January.....	1,799	\$1,289,183
August.....	1,074	1,074,943	February.....	1,079	615,981
September.....	1,248	526,751	March.....	1,269	880,561
October.....	1,476	745,239	April.....	1,420	621,690
November.....	1,763	1,372,661	May.....	1,121	1,002,850
December.....	1,726	1,381,336	June.....	884	443,266
			Total.....	16,086	\$10,586,321

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1937 TO JUNE 30, 1938.

Cause.	No.	Damage.
1. Chimneys, flues, cupolas and stacks, overheated or defective.....	941	\$ 431,508
2. Conflagrations.....	266	92,297
3. Electricity (except electric irons and similar small devices).....	1,880	745,957
4. Explosions.....	428	174,118
5. Exposure.....	648	464,037
6. Fireworks, fire crackers, balloons, etc.....	41	4,107
7. Friction, sparks occasioned by running machinery.....	21	20,172
8. Gas, natural and artificial.....	161	33,953
9. Hot ashes and coals, open fires.....	305	73,441
10. Hot grease, oil, tar, wax, asphalt (ignition of).....	160	429,759
11. Hot irons, including electric devices.....	129	20,834
12. Incendiarism.....	66	76,352
13. Lightning—buildings rodde.....	37	47,885
14. Lightning—buildings not rodde.....	292	286,872
15. Matches, smoking.....	2,392	348,400
16. Miscellaneous—cause known, but not classified (for unknown see No. 27).....	209	236,881
18. Open lights.....	273	129,150
19. Petroleum and its products.....	898	321,159
20. Rubbish and litter.....	1,242	160,603
22. Sparks—arising from combustion (other than 23).....	183	44,954
23. Sparks—on roofs.....	2,098	677,447
24. Spontaneous combustion.....	531	380,393
25. Steam and hot water pipes.....	55	3,857
26. Stoves, furnaces, boilers and their pipes.....	1,178	781,236
27. Unknown.....	1,571	4,196,387
28. Unknown origin, but investigation important.....	81	404,562
Total.....	16,086	\$10,586,321

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THERE-
FROM, LISTED ACCORDING TO THE PROPERTY DESTROYED JULY 1,
1937 TO JUNE 30, 1938.

Class of property.	No.	Damage.
1. Apartment houses, flats and rooming houses.....	1,962	\$ 384,717
2. Amphitheatres, grand stands, etc.....	3	10,205
3. Bakeries.....	39	36,610
4. Barber shops.....	31	11,729
5. Barns and stables (not liveryes).....	540	734,501
6. Churches.....	76	114,034
7. Depots, stations, waiting rooms, etc.....	10	175
8. Dry cleaning establishments.....	37	11,115
9. Dry houses, kilns, rooms, etc.....	1	2,000
10. Dwellings.....	5,955	2,632,421
11. Elevators and grain warehouses.....	21	272,102
12. Factories.....	324	1,586,023
13. Foundries.....	26	247,120
14. Garages.....	1,136	484,578
15. Granaries.....	56	72,253
16. Green houses.....	1	10
17. Halls, (lodge), (club), (dance), (public), etc.....	54	66,426
18. Hotels and boarding houses.....	366	182,452
19. Hospitals.....	13	9,319
20. Ice houses.....	9	17,930
21. Jails.....	1	5
22. Laundries.....	42	34,693
23. Liveryes.....	1	4,500
24. Mills (flour).....	4	2,670
25. Mills (saw and planing).....	9	24,510
26. Office buildings.....	131	93,743
27. Oil houses.....	52	26,450
28. Photo studios.....		
29. Power houses, pump houses and engine houses.....	14	5,335
30. Restaurants.....	291	294,335
31. Saloons.....	1	15
32. Sheds.....	887	162,128
33. Smoke houses.....	30	4,302
34. Silos.....	3	750
35. Stores.....	1,250	1,255,273
36. Shops, (carpenter, blacksmith, etc.).....	28	40,762
37. Schools, (colleges, seminaries, etc.).....	65	96,329
38. Theatres and motion picture houses.....	37	284,663
39. Warehouses.....	102	124,973
40. Miscellaneous.....	501	225,834
FIRES OTHER THAN BUILDINGS.		
1. Automobiles.....	1,717	129,808
2. Boats.....	12	1,444
3. Bridges.....	3	60,030
4. Cars, (railway), (electric), etc.....	79	157,606
5. Docks, (coal), etc.....	10	2,970
6. Fences.....	27	171
7. Grain and hay.....	59	4,490
8. Junk yards.....	38	21,160
9. Lumber yards.....	14	245,815
10. Tanks, (water), etc.....	3	2,630
11. Tents.....	3	47
12. Threshing outfits.....	3	1,150
13. Trestles.....		
14. Wagons.....	5	85
15. Bulk storage plants and tanks.....	3	1,925
16. Petroleum refineries.....	1	400,000
Total.....	16,086	\$10,586,321

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE
STATE OF ILLINOIS JULY 1, 1937 TO JUNE 30, 1938.

County.	No.	Damage.	County.	No.	Damage.
Adams.....	233	\$ 66,475	Livingston.....	106	\$ 82,204
Alexander.....	23	42,443	Logan.....	45	17,239
Bond.....	25	16,648	Macon.....	182	74,766
Boone.....	11	194,825	Macoupin.....	101	99,081
Brown.....	10	11,075	Madison.....	314	862,493
Bureau.....	96	58,670	Marion.....	132	146,018
Calhoun.....	13	56,945	Marshall.....	25	17,720
Carroll.....	34	33,431	Mason.....	42	46,416
Cass.....	41	26,861	Massac.....	5	423
Champaign.....	212	123,513	McDonough.....	91	58,617
Christian.....	110	69,688	McHenry.....	50	99,380
Clark.....	39	58,317	McLean.....	155	151,163
Clay.....	13	6,890	Menard.....	20	35,535
Clinton.....	23	32,353	Mercer.....	26	7,006
Coles.....	199	312,088	Monroe.....	8	2,131
Cook.....	7,297	1,881,933	Montgomery.....	77	44,594
Crawford.....	60	35,888	Morgan.....	58	74,296
Cumberland.....	23	18,899	Moultrie.....	61	17,602
DeKalb.....	108	108,652	Ogle.....	44	51,680
DeWitt.....	81	42,156	Peoria.....	424	347,896
Douglas.....	61	69,594	Perry.....	61	9,129
DuPage.....	109	106,340	Piatt.....	49	23,191
Edgar.....	42	153,686	Pike.....	39	45,612
Edwards.....	15	19,114	Pope.....	17	6,148
Effingham.....	36	25,264	Pulaski.....	50	59,640
Fayette.....	33	31,862	Putnam.....	1	25
Ford.....	37	32,961	Randolph.....	55	9,862
Franklin.....	95	128,847	Richland.....	38	23,955
Fulton.....	87	61,758	Rock Island.....	406	178,467
Gallatin.....	9	12,050	Saline.....	61	90,596
Greene.....	28	19,024	Sangamon.....	237	310,354
Grundy.....	29	34,086	Schuyler.....	26	6,743
Hamilton.....	22	9,496	Scott.....	18	5,645
Hancock.....	59	61,736	Shelby.....	93	81,865
Hardin.....	8	2,490	Stark.....	23	25,985
Henderson.....	10	13,745	St. Clair.....	336	322,176
Henry.....	118	29,621	Stephenson.....	80	66,285
Iroquois.....	89	115,053	Tazewell.....	90	38,632
Jackson.....	92	56,568	Union.....	9	20,315
Jasper.....	34	14,276	Vermilion.....	273	658,149
Jefferson.....	161	107,254	Wabash.....	40	23,912
Jersey.....	13	13,568	Warren.....	37	20,417
Jo Daviess.....	36	38,120	Washington.....	29	21,773
Johnson.....	8	13,500	Wayne.....	25	17,725
Kane.....	384	238,389	White.....	27	16,383
Kankakee.....	150	62,212	Whiteside.....	95	60,591
Kendall.....	28	20,277	Will.....	182	383,561
Knox.....	213	152,636	Williamson.....	155	379,557
Lake.....	273	176,020	Winnebago.....	255	130,854
LaSalle.....	234	143,965	Woodford.....	25	70,625
Lawrence.....	75	60,523			
Lee.....	49	23,104			
			Total.....	16,086	\$10,586,321

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STATE OF ILLINOIS
HENRY HORNER, Governor



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TWENTY-SECOND ANNUAL REPORT
OF
DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

JULY 1, 1938
TO
JUNE 30, 1939

ERNEST PALMER, Director of Insurance

[Printed by authority of the State of Illinois]

STATE OF ILLINOIS
HENRY HORNER, Governor



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ANNUAL REPORT
DIVISION OF FIRE PREVENTION
OF THE
DEPARTMENT OF INSURANCE
FOR THE YEAR JULY 1, 1938 TO JUNE 30, 1939
ERNEST PALMER, *Director of Insurance*
GEORGE H. ANDERSON, *Assistant Fire Marshal*

The work of the division has been carried out under the following major headings:

Investigation of fires of questionable origin.
Inspection and general fire prevention work.
Fire department training.
Education.

The untimely death of Fire Marshal Sherman V. Coultas in December, 1938, was a severe blow to the department. He had been accorded national recognition as a leader in the fire prevention field and the division has continued the work he inaugurated under the impetus of his planning and enthusiasm.

Investigations

During the year 527 fires were assigned for investigation, which is 105 less than the preceding year. The number of persons found guilty as a result of these investigations was 52, which is an increase of 7 over the preceding year. Generally speaking, there has been some easing of the problem of incendiary fires, as is indicated by a decrease of more than 16 per cent in the cases reported to this division for investigation. There has been no evidence of the existence of arson rings or rackets of the type which were broken up by activities of the division in recent years. Most of the burnings have been of a sporadic nature and in many counties the situation has been well under control, due to previous activities of the division and cooperation of the State's Attorneys and peace officers. This cooperation has been built up more effectively each year and the thoroughgoing interest of these local officials has been one of the most encouraging features of our drive against the incendiary.

Most incendiary fires continue to be for the purpose of defrauding the insurance companies, although there have been several cases of pyromania which were solved by our investigators and quite a number of juvenile cases, which were dealt with appropriately as the circumstances required.

The record of convictions by counties was:

Boone	1	Galatin	1	Macon	2
Cass	2	Jersey	1	Macoupin	1
Christian	2	Lake	2	Saline	1
Coles	1	LaSalle	1	Sangamon	3
Cook	25	Livingston	3	Stephenson	1
DuPage	1	McLean	1	Vermilion	2
Fulton	1				
Total					52

The tabulated summary of investigation activities follows:

Investigations open July 1, 1938.....	772
New investigations assigned	527
Investigations closed	697
Cases open for further investigation June 30, 1939.....	602
Arrests	95
Indictments returned	53
No true bills returned	5
Indictments nolle prossed	14
Found guilty	52
Found not guilty	9
Confessions	64
Cases dismissed	11
Juvenile cases, no court action.....	5
Juvenile cases, placed on probation.....	9
Committed to State hospital.....	8
Jury unable to agree, discharged.....	1

Fire Prevention

The Fire Prevention activities of the Division have consisted largely of general inspections throughout the State to reduce fire hazards. This work has been done by inspectors operating in assigned districts. In addition a great deal of work was done by the office in the way of passing on plans for school buildings and other places of public assembly or detention, and passing on plans for storage, handling and distribution of petroleum products.

In our general program of inspection work we have endeavored for a number of years to build up effective programs of fire prevention in the local communities, under which routine inspections are taken care of largely by the local authorities. This leaves the division free to care for special matters which can be handled more effectively by state authority and has enabled us to give special attention to schools, churches, theaters and other public buildings where there would be a serious hazard to life in case of fire. We have continued work in conjunction with the Division of Child Welfare of the Department of Public Welfare, with the result that conditions in virtually every children's home and organization throughout the state have been improved. Group inspections have been made in several towns, in which our deputies have worked with and directed local fire departments in a general town inspection. These inspections have eliminated the most flagrant fire hazards in the community and have given the fire department the necessary data to continue their work which will create a fire consciousness in the community, the benefits of which will be felt for some time.

During the year 1,012 orders were issued for correction of hazards and 882 compliances were reported by deputies. In addition, 178 dilapidated buildings were removed. This was accomplished with little recourse to court action. Three prosecutions were instituted

under the State Fire Marshal Law and seven under the Gasoline and Volatile Oil Act. Fines were assessed in two cases under the Fire Marshal Law and in six cases under the Gasoline Act. The policy of the department has been to secure compliance by "selling" fire prevention to the individual and winning his cooperation, and to institute action only where the circumstances leave no other recourse. In this manner we feel that we have made fire preventionists of the individual and have secured his continued efforts in the interests of fire safety.

There has been an unprecedented expansion in gasoline outlets and additional storage and enlargements of existing outlets. The rules of the department require an approval by the department of plans for new installations of gasoline bulk plants and service stations, and additions thereto. This has thrown a tremendous amount of work on the Division.

It may be said that practically all new gasoline installations are now made in substantial conformity with the rules of the Division. A great deal of work has been done during the last year toward bringing old bulk storage plants up to the safety requirements of our rules, but a great deal of work remains to be done along that line.

The development of the Illinois oil fields has created some pressing problems which will have to be dealt with and are being dealt with as conditions require. There has also been a marked increase in the storage and use of liquefied petroleum gases, which require special regulation.

Fire Department Instruction

This work has been continued under the plan adopted two years ago whereby two deputies were assigned as fire department instructors to visit the various fire departments throughout the state and instruct members in the fundamentals of firemanship. No line of work conducted by the Division has been more widely and thoroughly acclaimed. Previously only the larger cities could provide practical training for their fire departments. Only a few in the smaller towns could be sent to the State Fire College at the University of Illinois. Now it is possible to bring instruction in the elemental and essential features of fireman training directly to the local departments. This not only gives them the groundwork which all firemen should have, but enables the State Fire College to build up a program of advanced work.

During the year these instructors have visited 176 towns. A total of 2,253 firemen participated in the drills. The number of men enrolled in the fire departments visited was 2,706, of whom 2,400 were volunteers. This indicates that the great majority of fire department members received the benefit of this work.

In addition to instructing local fire departments, our instructors largely directed evolutions at the training tower at the State Fire College. They also have been loaned to fire schools in other states and have conducted schools at regional meetings of firemen in various parts of the state.

Illinois Fire College

The Illinois Fire College was held at the University of Illinois June 13 to 16. The attendance was 542, which was the largest recorded during the fifteen years in which the college has been conducted. Eight states outside of Illinois were represented by delegates, indicating the high standing of this college. There were classroom assemblies for everyone, group meetings for those interested in special subjects and training periods at the drill tower. It would be difficult to estimate the far-reaching benefits of the Illinois Fire College to the firemen of Illinois. Everyone who attended was serious minded and appeared determined to get all that he could out of the course and to take the knowledge he secured back home for the benefit of fellow members in his department. The success of this college is a wonderful tribute to its guiding genius, Professor L. H. Provine, who has been director since its inception.

Educational Activities

The educational work of the Division has been carried on through public addresses and distribution of printed material. There is an increasing demand for fire prevention information on the part of civic groups, parent-teacher associations and others. There is a field for developing an educational program which could be maintained on a year-round basis, with systematic coverage of groups throughout the state. This program should include carefully planned work in the public schools and should be supplemented by radio and regular press releases. Despite the work of the authorities, fire prevention engineers and fire prevention organizations, it is still true that most fires are due to carelessness or negligence, which is a trait of human nature which must always be contended with. The most effective offset to this is a continuous campaign of education, employing the psychology of modern advertising to give fire consciousness its proper place in the minds of the people. Much is accomplished along this line during Fire Prevention week each October, but fire prevention should be stressed throughout the year.

Fire Loss

The fire loss as reported to the Division by local officials was \$13,372,590, which was an increase over the preceding year by \$2,786,269. This increase is partly accounted for by a large elevator fire in Chicago. The number of fires reported was 15,821, which was a decrease of 265 from the preceding year.

Fire losses in the State of Illinois since the department was organized under the Civil Administrative Code have been as follows:

Year (Ending June 30 each year)	Number of fires	Loss
1917-1918	12,636	\$ 12,208,060
1918-1919	11,693	13,240,326
1919-1920	14,052	16,552,248
1920-1921	12,327	20,007,135
1921-1922	14,214	19,537,423
1922-1923	15,183	19,449,718
1923-1924	14,074	20,928,518
1924-1925	18,115	26,148,908
1925-1926	18,049	27,112,084
1926-1927	16,744	21,225,806
1927-1928	19,268	21,629,185
1928-1929 (downstate only) ..	8,986	11,714,189
1929-1930 (downstate only) ..	9,432	12,316,052
1930-1931	19,283	21,815,989
1931-1932	17,279	15,809,381
1932-1933	16,929	13,269,814
1933-1934	18,537	19,476,606
1934-1935	14,045	8,549,703
1935-1936	17,920	12,755,129
1936-1937	16,492	11,042,084
1937-1938	16,086	10,586,321
1938-1939	15,821	13,372,590

* Figures are compiled from estimates filed with the State Fire Marshal by Fire Chiefs, Mayors (in municipalities having no fire departments) and Town Clerks (in unincorporated territory.)

Fire Casualties

Loss of life and injuries incident to fire or burns, as compiled by the division from various sources of information were as follows:

DEATHS

	Babes and children	Youths and middle aged	Aged	Total
Males	19	53	30	102
Females	28	27	17	72
Total	47	80	47	174

INJURIES

	Babes and children	Youths and middle aged	Aged	Total
Males	24	335	4	363
Females	14	85	7	106
Total	38	420	11	469

Not all of the deaths and injuries occurred as the result of burning buildings. Many were due to careless use of gasoline and petroleum products, ignition of clothing from bonfires and open flames and other similar circumstances. Practically all were preventable by the exercise of due caution and by proper supervision of children.

THE STATISTICAL RECORD

PROPERTY LOSS

Aggregate Value of Buildings and Personal Property showing Insurance Thereon and Total Damage by Fire in the State of Illinois from July 1, 1938 to June 30, 1939	
Total value of buildings in which fires have occurred.....	\$129,691,220
Total damage to said buildings	8,702,692
Total insurance on said buildings.....	62,155,229
Total value of personal property jeopardized by fire.....	39,708,371
Total damage to said personal property.....	4,669,898
Total insurance on said personal property.....	22,838,284
Total fire loss in the entire State of Illinois.....	13,372,590
Total number of fires in the entire State of Illinois.....	15,821

Aggregate Value of Buildings and Personal Property Showing Insurance Thereon and Total Damage by Fire Outside the City of Chicago from July 1, 1938 to June 30, 1939	
Total value of buildings in which fires have occurred.....	\$ 59,214,234
Total damage to said buildings	6,179,393
Total insurance on said buildings	37,738,402
Total value of personal property jeopardized by fire.....	25,421,677
Total damage to said personal property.....	3,552,673
Total insurance on said personal property.....	17,183,609
Total fire loss outside the city of Chicago.....	9,732,066
Total number of fires outside the city of Chicago.....	9,927

Aggregate Value of Buildings and Personal Property Showing Insurance Thereon and Total Damage by Fire in the City of Chicago from July 1, 1938 to June 30, 1939	
Total value of buildings in which fires have occurred.....	\$ 70,476,986
Total damage to said buildings.....	2,523,299
Total insurance on said buildings	24,416,827
Total value of personal property jeopardized by fire.....	14,286,694
Total damage to said personal property.....	1,117,225
Total insurance on said personal property.....	5,654,675
Total fire loss in the city of Chicago.....	3,640,524
Total number of fires in the city of Chicago.....	5,894

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1938 TO JUNE 30, 1939

Month	No. Fires	Fire Loss
<i>1938</i>		
July.....	961	\$ 616,882
August.....	987	558,614
September.....	881	975,600
October.....	1,345	818,967
November.....	1,914	1,000,055
December.....	1,737	891,860
<i>1939</i>		
January.....	1,401	871,667
February.....	1,379	1,276,466
March.....	1,748	1,421,993
April.....	1,313	778,939
May.....	1,406	3,689,218
June.....	749	472,329
Total.....	15,821	\$13,372,590

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1938 TO JUNE 30, 1939

Cause	Number	Damage
1. Chimneys, Flues, Cupolas and Stacks, overheated or defective.....	938	\$ 443,338
2. Conflagrations.....	186	1,279,967
3. Electricity (except electric irons and similar small devices).....	1,908	1,109,594
4. Explosions.....	375	1,943,701
5. Exposure.....	787	439,408
6. Fireworks, Fire Crackers, Balloons, etc.....	26	2,522
7. Friction, Sparks occasioned by running machinery.....	10	9,682
8. Gas, Natural and Artificial.....	115	56,384
9. Hot Ashes and Coals, open Fires.....	273	45,341
10. Hot Grease, Oil, Tar, Wax, Asphalt (ignition of).....	138	196,412
11. Hot Irons, including electric devices.....	116	65,401
12. Incendiarism.....	78	85,586
13. Lightning—buildings rodded.....	27	14,202
14. Lightning—buildings not rodded.....	293	384,332
15. Matches, Smoking.....	2,299	305,910
16. Miscellaneous—Cause known, but not classified (for unknown see No. 27).....	204	89,470
17. Open lights.....	288	102,513
18. Petroleum and its Products.....	906	403,626
19. Rubbish and Litter.....	1,171	332,094
20. Sparks—Arising from combustion (other than 23).....	38	10,425
21. Sparks—On roofs.....	2,156	562,291
22. Spontaneous Combustion.....	445	303,959
23. Steam and Hot Water Pipes.....	53	3,732
24. Stoves, Furnaces, Boilers and their Pipes.....	1,194	467,629
25. Unknown.....	1,735	4,134,107
26. Unknown origin, but investigation important.....	62	580,964
Total.....	15,821	\$13,372,590

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1938 TO JUNE 30, 1939

Class of Property	Number	Damage
1. Apartment Houses, Flats and Rooming Houses.....	1,910	\$ 257,923
2. Amphitheatres, Grand Stands, etc.....	33	5,461
3. Bakeries.....	19	5,763
4. Barber Shops.....	656	1,081,534
5. Barns and Stables (Not Liveries).....	75	106,163
6. Churches.....	5	191
7. Depots, Stations, Waiting Rooms, etc.....	36	25,347
8. Dry Cleaning Establishments.....	2	4,400
9. Dry Houses, Kilns, Rooms, etc.....	5,866	2,830,916
10. Dwellings.....	16	2,856,976
11. Elevators and Grain Warehouses.....	294	1,511,834
12. Factories.....	32	21,153
13. Foundries.....	1,046	399,734
14. Garages.....	61	67,580
15. Granaries.....	8	34,040
16. Green Houses.....	61	39,934
17. Halls, (Lodge) (Club) (Dance) (Public) etc.....	356	175,132
18. Hotels and Boarding Houses.....	16	14,434
19. Hospitals.....	7	9,812
20. Ice Houses.....	3	62
21. Jails.....	42	12,120
22. Laundries.....	1	12,000
23. Liveries.....	2	6,250
24. Mills (Flour).....	4	140
25. Mills (Saw and Planing).....	160	173,693
26. Office Buildings.....	56	16,272
27. Oil Houses.....	2	110
28. Photo Studios.....	10	4,035
29. Power Houses, Pump Houses and Engine Houses.....	244	170,719
30. Restaurants.....	1	63
31. Saloons.....	880	170,934
32. Sheds.....	35	5,436
33. Smoke Houses.....	7	6,170
34. Silos.....	1,243	1,473,864
35. Stores.....	30	32,942
36. Shops (Carpenter, Blacksmith, etc.).....	74	493,136
37. Schools, (Colleges, Seminaries, etc.).....	15	91,850
38. Theatres and Motion Picture Houses.....	81	251,205
39. Warehouses.....	449	218,745
40. Miscellaneous.....		

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FIRES OTHER THAN BUILDINGS

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1. Automobiles.....	1,695	172,527
2. Boats.....	10	30,705
3. Bridges.....	2	9,075
4. Cars, (Railway) (Electric) etc.....	64	42,882
5. Docks, (Coal) etc.....	14	1,040
6. Fences.....	45	414
7. Grain and Hay.....	69	4,567
8. Junk Yards.....	34	12,365
9. Lumber Yards.....	11	155,042
10. Tanks (Water) etc.....	5	7,000
11. Tents.....	2	250
12. Threshing Outfits.....		
13. Trestles.....	3	12,100
14. Wagons.....	5	215
15. Bulk Plants and Tanks.....	10	14,055
16. Refineries.....	14	322,280
Total.....	15,821	\$13,372,590

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS
JULY 1, 1938 TO JUNE 30, 1939

County	No.	Damage	County	No.	Damage
Adams.....	223	\$ 168,234	Livingston.....	109	123,320
Alexander.....	16	30,125	Logan.....	65	68,146
Bond.....	23	22,761	Macon.....	196	74,505
Boone.....	18	37,184	Macoupin.....	106	59,714
Brown.....	23	76,352	Madison.....	371	406,247
Bureau.....	115	251,879	Marion.....	178	66,309
Calhoun.....	2	11,099	Marshall.....	21	25,183
Carroll.....	66	64,663	Mason.....	44	34,695
Cass.....	45	29,239	Massac.....	22	33,419
Champaign.....	176	140,774	McDonough.....	100	52,180
Christian.....	99	71,204	McHenry.....	43	98,011
Clark.....	26	22,458	McLean.....	159	570,474
Clay.....	16	22,060	Menard.....	9	14,225
Clinton.....	42	80,972	Mercer.....	28	33,601
Coles.....	236	99,847	Monroe.....	16	22,880
Cook.....	6,888	4,273,854	Montgomery.....	66	112,642
Crawford.....	72	261,918	Morgan.....	87	36,426
Cumberland.....	27	30,856	Moultrie.....	45	32,957
DeKalb.....	91	73,128	Ogle.....	49	92,608
DeWitt.....	15	19,826	Peoria.....	363	219,609
Douglas.....	54	70,599	Perry.....	47	42,185
DuPage.....	139	167,726	Piatt.....	39	21,032
Edgar.....	41	54,341	Pike.....	59	99,299
Edwards.....	11	5,764	Pope.....	30	15,980
Effingham.....	28	15,961	Pulaski.....	50	46,775
Fayette.....	28	106,061	Putnam.....	6	15,560
Ford.....	47	70,943	Randolph.....	43	40,275
Franklin.....	101	44,212	Richland.....	43	25,743
Fulton.....	109	71,931	Rock Island.....	385	133,483
Gallatin.....	15	36,925	Saline.....	73	93,309
Greene.....	48	37,439	Sangamon.....	295	201,351
Grundy.....	24	25,172	Schuyler.....	23	18,117
Hamilton.....	40	28,383	Scott.....	15	11,680
Hancock.....	82	78,235	Shelby.....	49	64,514
Hardin.....	11	43,725	Stark.....	27	27,690
Henderson.....	19	17,650	St. Clair.....	271	322,692
Henry.....	155	187,081	Stephenson.....	51	78,172
Iroquois.....	85	60,045	Tazewell.....	86	105,443
Jackson.....	69	259,538	Union.....	9	37,450
Jasper.....	26	20,242	Vermilion.....	289	160,910
Jefferson.....	126	30,734	Wabash.....	46	52,850
Jersey.....	17	27,381	Warren.....	55	74,710
JoDaviess.....	43	44,367	Washington.....	21	18,374
Johnson.....	15	10,750	Wayne.....	37	32,703
Kane.....	329	331,203	White.....	39	89,153
Kankakee.....	153	66,822	Whiteside.....	97	394,054
Kendall.....	34	60,235	Will.....	163	198,603
Knox.....	210	88,217	Williamson.....	172	132,013
Lake.....	254	327,362	Winnebago.....	297	108,241
LaSalle.....	248	271,891	Woodford.....	32	30,569
Lawrence.....	57	22,470			
Lee.....	58	30,671			
				15,821	\$ 13,372,590



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STATE OF ILLINOIS
HENRY HORNER, Governor



TWENTY-THIRD ANNUAL REPORT
OF
DIVISION OF FIRE PREVENTION

DEPARTMENT OF INSURANCE

JULY 1, 1939
TO
JUNE 30, 1940

ERNEST PALMER, Director of Insurance
EDWARD P. ALLEN, Fire Marshal

(Printed by authority of the State of Illinois)

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STATE OF ILLINOIS
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ANNUAL REPORT
DIVISION OF FIRE PREVENTION
OF THE
DEPARTMENT OF INSURANCE
FOR THE YEAR JULY 1, 1939 TO JUNE 30, 1940

ERNEST PALMER, *Director of Insurance*

EDWARD P. ALLEN, *Fire Marshal*

The Division of Fire Prevention seeks to reduce loss of life and property from fire in this State by maintaining a constructive program in which efforts of local fire departments are united with the activities of our Division in a year-round campaign against fire waste. This program divides itself naturally into four main classes, as follows:

- Investigation of fires of suspected criminal origin.
- Inspection of buildings and general fire prevention work.
- Fire department instruction.
- Public education.

Fire Investigations

To the best of our knowledge and information, no organized arson rings are operating at this time in Illinois, nor have there been any such organized activities since bands of professional arsonists were broken up in Chicago and some downstate areas a few years ago. However, 621 fires were of a nature which warranted an investigation by the Division. Fifty convictions were secured, which is about the usual average. In addition, six were committed to State hospitals, one State hospital parolee was returned and 12 juvenile cases were handled.

The record of convictions by counties was:

Cook	30	Lake	1	Marshall	1
Edwards	1	LaSalle	2	Rock Island	2
Grundy	2	Lee	1	Williamson	2
Henry	2	Macoupin	1	Winnebago	1
Knox	1	Madison	3		
Total					50

The tabulated summary of investigation activities follows:

Investigations open July 1, 1939.....	602
New investigations assigned.....	621
Investigations closed.....	453
Cases open for further investigation June 30, 1940.....	770
Arrests	111
Indictments returned.....	46
No true bills returned.....	2
Indictments nolle prossed.....	5
Found guilty.....	50
Found not guilty.....	4
Confessions	42
Cases dismissed.....	18
Juvenile cases, no court action.....	3
Juvenile cases, placed on probation.....	2
Committed to State hospital.....	6
Turning in false alarms, guilty.....	9
Juvenile cases, court disposal made.....	7
Returned to State hospital on violation of parole.....	1
Juvenile case dismissed.....	1
*Found guilty of charge other than burning.....	1

*Case grew out of fire investigation.

Fire Prevention Activities

Fire waste can be controlled. It is generally accepted by fire engineers that 75 to 90 per cent of all fires are due to causes which are easily preventable. An analysis of the fire loss tables at the end of this report bears out this conclusion. Important measures of control are:

Systematic inspection of business and manufacturing property, high value districts, schools, churches, theaters, hospitals and other places where large groups of people gather or are housed.

Ordinances and regulations to promote fire safety and prevent spread of fire by fire-resistive construction at proper places.

Use of approved equipment where special fire hazard is involved, such as electrical installations, storage and handling of gasoline and flammable liquids, and processes which utilize dangerous chemicals or other materials.

The Division has encouraged municipalities to build up their ordinances and to maintain routine inspections. We have concentrated our efforts especially on places of public assemblage or detention. Public and parochial schools generally have been inspected and have been made safer through compliance with our recommendations. State normal schools, hospitals and penal institutions have been surveyed as to fire safety and recommendations filed with proper departmental authorities. By request of the Adjutant General, all State armories are being inspected. An inspection of private hospitals has been undertaken by request of the Department of Public Welfare. Orphanages and other places which care for children under license of the Department of Public Welfare are kept under inspection in cooperation with that Department.

Much fire safety has been added to new school buildings and additions, to new theaters and public buildings by checking of the blue prints in this office.

Gasoline and oil regulation has become one of our most important duties. Our gasoline code is regarded as one of the most advanced in the country. All new installations substantially meet the requirements of the code and progress is being made in bringing old installations up to present day standards of safety. Plans for new installations pass through this office for approval.

Our deputies made 5,008 inspections during the year, issued 902 orders and reported 498 compliances to date. Dilapidated buildings to the number of 166 were removed.

Fire Department Instruction

Two of our deputies devote their entire time to visiting fire departments and giving instruction in all phases of fire department operations. This is practical demonstration in hose, ladder, rope, first-aid and life

saving work, besides handling of other tools and equipment. During the year 162 towns were visited and 1,592 firemen participated in drills.

Illinois Fire College

Held annually at the University of Illinois, this College is raising fire department efficiency to new levels in the prevention, control and extinguishment of fire. It combines classroom lectures and demonstrations with practical drills at the training tower over a period of four days. The dates were June 11 to 14, 1940. The attendance was 584 the largest in the 16 years of the college.

Public Education

The underlying cause of most fires is negligence or thoughtlessness of the individual. This calls for a continuous campaign of education designed to make the individual more fire conscious. The high light in this campaign is Fire Prevention Week, held annually in the week in which the anniversary of the Chicago fire, October 9, falls. All agencies which are interested in fire control unite their efforts this week over radio, in the press and by public meetings and demonstrations. We supplement this throughout the year by talks and printed material so far as the facilities of the Division permit.

Fire Loss

As tabulated from reports received from local officials, the fire loss in the State for the year was \$11,767,752, a decrease of \$1,604,838 from the preceding year. The number of fires was 18,729, an increase of 2,908.

Fire losses in the state since the organization of departments under the Civil Administrative Code follow:

Year (Ending June 30 each year)	Number of Fires	Loss
1917-1918.....	12,636	\$12,208,060
1918-1919.....	11,693	13,240,326
1919-1920.....	14,052	16,552,248
1920-1921.....	12,327	20,007,135
1921-1922.....	14,214	19,537,423
1922-1923.....	15,183	19,149,718
1923-1924.....	14,074	20,928,518
1924-1925.....	18,115	26,148,908
1925-1926.....	18,049	27,112,084
1926-1927.....	16,744	21,225,806
1927-1928.....	19,268	21,629,185
1928-1929 (downstate only).....	8,986	11,711,189
1929-1930 (downstate only).....	9,432	12,316,052
1930-1931.....	19,285	21,815,989
1931-1932.....	17,279	15,809,381
1932-1933.....	16,929	13,269,814
1933-1934.....	18,537	19,476,606
1934-1935.....	14,045	8,549,703
1935-1936.....	17,920	12,755,129
1936-1937.....	16,492	11,042,084
1937-1938.....	16,086	10,586,321
1938-1939.....	15,821	13,372,590
1939-1940.....	18,729	11,767,752

Fire Casualties

Loss of life and injuries incident to fire or burns, as compiled by the Division from various sources of information, were as follows:

DEATHS

	Babes and Children	Youths and Middle Aged	Aged	Total
Males.....	14	87	33	134
Females.....	20	40	14	74
	<u>34</u>	<u>127</u>	<u>47</u>	<u>208</u>

INJURIES

	Babes and Children	Youths and Middle Aged	Aged	Total
Males.....	31	405	3	439
Females.....	21	101	5	127
	<u>52</u>	<u>506</u>	<u>8</u>	<u>566</u>

Unfortunately these figures show an increase of 34 fatalities and 97 injuries over the preceding year. This is partly accounted for by accidents in the oil producing fields of southern Illinois, most of which were of a preventable nature. Many casualties resulted from use of kerosene to kindle fires, carelessness with matches or "smokes" around gasoline, ignition of clothing from bonfires, smoking in bed and similar preventable causes.

STATISTICAL DATA

PROPERTY LOSS

Aggregate Value of Buildings and Personal Property Showing Insurance Thereon and Total Damage by Fire in the State of Illinois from July 1, 1939 to June 30, 1940

Total value of buildings in which fires have occurred.....	\$145,412,422
Total damage to said buildings.....	7,569,690
Total insurance on said buildings.....	71,358,207
Total value of personal property jeopardized by fire.....	47,302,612
Total damage to said personal property.....	4,198,062
Total insurance on said personal property.....	25,954,662
Total fire loss in the entire state of Illinois.....	11,767,752
Total number of fires in the entire state of Illinois.....	18,729

Aggregate Value of Buildings and Personal Property Showing Insurance Thereon and Total Damage by Fire Outside the City of Chicago from July 1, 1939 to June 30, 1940

Total value of buildings in which fires have occurred.....	\$ 74,416,797
Total damage to said buildings.....	7,039,453
Total insurance on said buildings.....	48,899,572
Total value of personal property jeopardized by fire.....	31,125,843
Total damage to said personal property.....	3,844,384
Total insurance on said personal property.....	18,110,512
Total fire loss outside the city of Chicago.....	10,883,837
Total number of fires outside the city of Chicago.....	11,986

Aggregate Value of Buildings and Personal Property Showing Insurance Thereon and Total Damage by Fire in the City of Chicago from July 1, 1939 to June 30, 1940

Total value of buildings in which fires have occurred.....	\$ 70,995,625
Total damage to said buildings.....	530,237
Total insurance on said buildings.....	22,458,635
Total value of personal property jeopardized by fire.....	16,176,769
Total damage to said personal property.....	353,678
Total insurance on said personal property.....	7,844,150
Total fire loss in the city of Chicago.....	883,915
Total number of fires in the city of Chicago.....	6,743

NUMBER OF FIRES AND THE LOSS THEREFROM IN THE STATE OF ILLINOIS FOR EACH MONTH OF THE FISCAL YEAR JULY 1, 1939 TO JUNE 30, 1940

Month	No. Fires	Fire Loss
1939		
July.....	1,101	\$ 562,552
August.....	993	548,502
September.....	1,476	742,016
October.....	1,942	1,160,884
November.....	1,711	1,379,659
December.....	1,898	1,152,053
1940		
January.....	2,844	1,797,642
February.....	1,443	1,012,155
March.....	1,765	1,199,170
April.....	1,466	696,533
May.....	1,102	727,621
June.....	988	788,965
Total.....	18,729	\$11,767,752

CLASSIFICATION OF THE FIRE LOSS IN THE STATE OF ILLINOIS, GIVING THE NUMBER OF FIRES AND THE LOSS, CLASSIFIED ACCORDING TO CAUSES JULY 1, 1939 TO JUNE 30, 1940

Cause	Number	Damage
1. Chimneys, Flues, Cupolas and Stacks, overheated or defective.....	1,302	\$ 818,335
2. Conflagration	269	35,705
3. Electricity (except electric irons and similar small devices).....	2,041	936,471
4. Explosions	386	142,005
5. Exposure	1,008	535,949
6. Fireworks, Fire Crackers, Balloons, etc.....	37	5,674
7. Friction, Sparks occasioned by running machinery.....	14	6,725
8. Gas, Natural and Artificial.....	112	41,499
9. Hot Ashes and Coals, open fires.....	371	60,083
10. Hot Grease, Oil, Tar, Wax, Asphalt (ignition of).....	157	42,039
11. Hot Irons, including electric devices.....	105	22,980
12. Incendiarism	63	40,046
13. Lightning—buildings rodded.....	27	38,544
14. Lightning—buildings not rodded.....	227	314,694
15. Matches, Smoking.....	2,632	336,922
16. Miscellaneous cause known, but not classified (for unknown see No. 27)	151	112,269
18. Open lights.....	425	194,177
19. Petroleum and its Products.....	988	414,068
20. Rubbish and Litter.....	1,618	267,364
22. Sparks—Arising from Combustion (other than 23).....	88	29,607
23. Sparks—On Roofs.....	2,503	727,652
24. Spontaneous Combustion.....	557	506,915
25. Steam and Hot Water Pipes.....	141	19,107
26. Stoves, Furnaces, Boilers and their pipes.....	1,473	948,039
27. Unknown	1,919	4,833,764
28. Unknown origin, but investigation important.....	85	337,119
Total.....	18,729	\$11,767,752

CLASSIFICATION OF THE NUMBER OF FIRES AND THE LOSS THEREFROM, LISTED ACCORDING TO THE PROPERTY DESTROYED JULY 1, 1939 TO JUNE 30, 1940

Class of Property	Number	Damage
1. Art. Houses, Flats and Rooming Houses.....	2,193	\$ 318,177
2. Amphitheatres, Grand Stands, etc.....	6	320
3. Bakeries	35	5,933
4. Barber Shops	41	12,071
5. Barns and Stables (not liveryes).....	634	1,190,175
6. Churches	101	433,651
7. Depots, Stations, Waiting Rooms, etc.....	15	1,765
8. Dry Cleaning Establishments	24	13,917
9. Dry Houses, Kilns, Rooms, etc.....	.....	.....
10. Dwellings	7,085	3,575,540
11. Elevators & Grain Warehouses.....	18	226,526
12. Factories	407	642,289
13. Foundries	54	11,561
14. Garages	1,242	429,675
15. Granaries	85	125,849
16. Green Houses	11	15,005
17. Halls, (Lodge) (Club) (Dance) (Public) etc.....	88	122,050
18. Hotels and Boarding Houses	405	74,440
19. Hospitals	11	16,190
20. Ice Houses	7	387
21. Jails	1	8
22. Laundries	37	78,697
23. Liveryes	3	8,100
24. Mills (Flour)	8	338,875
25. Mills (Saw and Planing).....	12	12,408
26. Office Buildings	167	133,307
27. Oil Houses	78	38,919
28. Photo Studios	2	40
29. Power Houses, Pump Houses and Engine Houses.....	19	16,776
30. Restaurants	302	265,663
31. Saloons	9	5,155
32. Sheds	1,236	194,103
33. Smoke Houses	31	5,017
34. Silos	6	3,400
35. Stores	1,366	1,597,831
36. Shops, (Carpenter, Blacksmith, etc.).....	43	39,244
37. Schools (Colleges, Seminaries, etc.).....	83	641,623
38. Theatres and Motion Picture Houses.....	30	62,012
39. Watchhouses	109	230,416
40. Miscellaneous	436	233,044

FIRES OTHER THAN BUILDINGS

1. Automobiles	1,805	\$ 143,557
2. Boats	9	2,395
3. Bridges	10	6,345
4. Cars (Railway) (Electric) etc.....	78	61,391
5. Docks, (Coal) etc.....	22	43,764
6. Fences	70	939
7. Grain and Hay.....	186	21,156
8. Junk Yards	45	9,432
9. Lumber Yards	20	310,777
10. Tanks (Water) etc.....	11	16,995
11. Tents	5	1,077
12. Threshing Outfits	1	1,500
13. Trestles	4	197
14. Wagons	8	3,710
15. Bulk Plants and Tanks.....	3	12,100
16. Refineries	12	12,258
17. Oil Fields		
Total	18,729	\$11,767,752

NUMBER OF FIRES AND THE LOSS THEREFROM OCCURRING IN THE STATE OF ILLINOIS
JULY 1, 1939 TO JUNE 30, 1940

County	No.	Damage	County	No.	Damage
Adams	256	\$ 129,391	Livingston	134	\$ 212,662
Alexander	18	43,320	Logan	81	19,600
Bond	19	18,610	Macon	303	225,556
Boone	25	52,882	Macoupin	116	131,359
Brown	21	18,518	Madison	474	330,386
Bureau	113	132,987	Marion	286	211,038
Calhoun			Marshall	23	33,176
Carroll	63	56,388	Mason	55	51,904
Cass	39	69,191	Massac	4	3,607
Champaign	242	168,297	McDonough	125	80,455
Christian	113	50,505	McHenry	81	154,730
Clark	49	57,881	McLean	138	172,099
Clay	25	27,489	Menard	28	30,584
Clinton	45	152,473	Mercer	27	34,268
Coles	213	92,252	Monroe	19	9,485
Cook	7,791	2,187,809	Montgomery	88	42,524
Crawford	86	75,061	Morgan	97	31,949
Cumberland	20	19,775	Moultrie	56	48,010
DeKalb	120	99,058	Ogle	80	116,173
DeWitt	64	30,659	Peoria	457	386,060
Douglas	74	81,097	Perry	71	39,450
DuPage	119	106,835	Platt	31	10,524
Edgar	29	115,043	Pike	70	90,271
Edwards	4	1,108	Pope	27	26,420
Effingham	39	38,080	Pulaski	51	59,596
Fayette	64	50,815	Putnam	7	5,569
Ford	39	57,182	Randolph	59	81,992
Franklin	139	108,300	Richland	46	50,806
Fulton	99	159,306	Rock Island	466	250,508
Gallatin	15	7,630	Saline	169	64,794
Greene	46	69,040	Sangamon	306	605,684
Grundy	20	66,176	Schuyler	44	56,154
Hamilton	47	18,298	Scott	15	11,024
Hancock	76	86,376	Shelby	74	93,477
Hardin	13	6,370	Stark	49	56,693
Henderson	33	36,662	St. Clair	366	235,323
Henry	114	77,278	Stephenson	72	97,199
Iroquois	108	169,947	Tazewell	146	135,772
Jackson	141	68,263	Union	15	55,643
Jasper	33	22,890	Vermillion	373	445,653
Jefferson	214	96,207	Wabash	41	24,783
Jersey	32	60,122	Warren	41	35,495
JoDaviess	54	35,727	Washington	25	22,236
Johnson	8	1,320	Wayne	60	28,585
Kane	426	251,931	White	40	31,504
Kankakee	173	75,546	Whiteside	100	98,641
Kendall	41	57,230	Will	172	164,976
Knox	230	115,119	Williamson	196	82,242
Lake	341	343,132	Winnebago	328	151,035
LaSalle	261	263,322	Woodford	51	113,884
Lawrence	74	43,335			
Lec	88	44,628			
				18,729	\$11,767,752

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